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香 港 醫 訊

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Plastic Surgery

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Laser Forum 2012

jointly organized by

The Hong Kong Surgical Laser Association,
The Hong Kong Association of Cosmetic Surgery,
The Hong Kong Medical Association,
The Hong Kong Dental Association &
Association of Hong Kong Nursing Staff

For doctors, nurses and allied health professionals

2 December 2012 (Sunday)
Hospital Authority Building, 147B Argyle Street, Kowloon

A. Certificate Course: Frontiers in Laser Surgery and Safety (Whole-Day Session)

TOPICS HIGHLIGHT

- Transcutaneous focused ultrasound for non-invasive skin tightening
- Advances in use of fractional laser for skin resurfacing
- New advances in non-invasive body contouring-high intensity focused ultrasound
- Cosmetic dentistry using Erbium, Diode and Nd:YAG lasers
- Latest Innovation for Cataract— the Femtosecond Laser Cataract Surgery
- Advances in LASIK for Enhanced Safety and Precision
- State-of-the-art Laser Technology in Oculoplastic
- Modern Lasers for Retinal and Macular Diseases
- Medical Laser Safety in Operation Theatre

B. Seminar on Cosmetic Surgery (Half-Day Session)

TOPICS HIGHLIGHT

- Filler and Facial Rejuvenation
- Blepharoplasty
- Mid-face volumization
- Energy Assisted Liposuction
- Anatomical gel implants: Changes in breast aesthetics and practices

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- For Nurse: Registration form is available on Association of Hong Kong Nursing Staff website: www.nurse.org.hk or by Fax: 2314 6900

Registration Fee

Includes admission, programme materials, Certificate of Attendance, break service and luncheon. Certificates will be issued to all participated doctors, nurses and allied health professionals.

* Participants will be accredited with CME from various colleges of the Hong Kong Academy of Medicine and various institutions in Hong Kong for Specialists and Non-Specialists.

* CNE will be accredited through Association of Hong Kong Nursing Staff.

	A. Certificate Course	B. Seminar & Certificate Course
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Doctor (member of HKSLA, HKCS, HKDA or HKMA)	HK$ 400	HK$ 800
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Contents

Disclaimer

The Cover Shot

Photo was taken at the Lingnan Garden at the Lai Chi Kok Park which has beautiful landscape and scenery and is famous for local TV drama shootings. It was taken inside one of the theme houses at 1/250, F4, ISO 800 with re-touching.

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Editorial

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Editor

Dr. Peter CW PANG

Two decades ago, cosmetic surgery was largely a matter of scalpels, endoscopic surgery, considerable downtime and expensive. With the increase in understanding of changes in ageing, advancements in biotechnology, numerous less invasive methods have been available for the enhancement of appearance. There is now a whole spectrum of "treatments" between make up and surgery. Most advancements in the recent 2 decades included lasers, biochemical products (such as injectables) and various energy sources (Radiofrequency, ultrasound, shock wave, infra-red, or combinations of them) for the treatment of skin and even deeper structures.

Less invasive methods result in more acceptance of "cosmetic enhancement". People nowadays will no longer frown upon the term; instead they would like to talk about if these treatments are useful to them. With the increased number of people willing to do so, family doctors and even beauticians are entering the business. Certain American states are lobbying for laws to limit carrying out the procedures only to qualified cosmetic surgeons and dermatologists. There are also growing concerns about the use of materials that are not (yet) approved in Hong Kong. Often they are smuggled in by doctors and patients from litigious markets in Europe, China Mainland and Latin America, where they are more quickly approved.

The presence of beauty centres which are operated solely by non-doctors may not put patients' interests in the first place and the "Do no harm" motto is not upheld. With the recent tragic event happened in the cosmetic medicine field in Hong Kong, more formal regulation is urgently needed to ensure the safety of the patients receiving aesthetic enhancement treatments.

I would like to thank Dr. David SY Wong in submitting the articles "Plastic surgery and Lawsuits" and "Current Status of Lipo-injection of the Breast"; Dr. Wing-yung Cheung in telling us the "Complications of injection Facial Fillers"; Dr. Raymond Ng in giving us the update in various fillers. I would like to alert those practising injections in their daily practice to be aware of the pitfalls and risks so as to provide optimal care to our patients.

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References:
1. Narins et al. J Am Acad Dermatol 2010;62:448-62.
2. http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/DeviceApprovalsandClearances/RecentlyApprovedDevices/ucm176124.htm

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MEDICAL AESTHETICS | CONFIDENCE THAT SHOWS

SANOFI

History of Filling up the Body

Dr. Peter CW PANG

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Specialist in Plastic Surgery

Dr. Peter CW PANG

This article has been selected by the Editorial Board of the Hong Kong Medical Diary for participants in the CME programme of the Medical Council of Hong Kong (MCHK) to complete the following self-assessment questions in order to be awarded 1 CME credit under the programme upon returning the completed answer sheet to the Federation Secretariat on or before 30 November 2012.

Introduction

The quest for biomaterials and biocompatibility interfaces has been an ongoing one in research that has undergone dramatic expansion. In 1600 Fallopius'[1] repaired a calvarial defect using a gold plate. Nowadays, synthetic solid implants and injectable implants are used in various reconstructive and cosmetic plastic reconstructive procedures. Through researches, biomedical companies continue to look for biomaterials that provide mechanical durability, biocompatibility, ease of application and safety in manufacturing. With our increased knowledge in understanding the complex interaction between our body and the implanted/ injected material, even inflammation now becomes a desirable reaction in the filling up of the volume of the body. Various implant materials have been so manufactured. Before the use of any implanted material, a doctor needs to understand the body response, degradation or rejection of the implanted material so as to ascertain the right choice of material used for a particular patient.

In general, the implanted materials must be non-toxic, non-carcinogenic, and biocompatible to the body immune system, non-mutagenicity and non-teratogenicity. The method of injection should be simple, reproducible, consistent and safe. Doctors also need to understand the durability, possibility of migration, and possible scarring formation. They should have minimal side effects, predictable outcomes and minimal downtime. If they are not autologous, the substances, agents or devices should assure purity and accessibility and availability of information regarding usage. When considering costs, they should be cost-effective, versatile, have a durable shelf-life and easy to be stored. Autologous fillers cannot achieve complete predictable results while synthetic fillers cannot achieve permanent results. The former is getting more refined with improvements in the harvesting and injection techniques and the latter is extending their longevity with reduced unwanted tissue reactions. The development of tissue fillers is expanding rapidly in reaction to increased demand from the society.

Solid implant materials include silicone, polyurethane, thermoplastic polymers such as polyamides, polyesters, polyethylenes, polyfluoroethylenes (PTFEs), epoxies, and polypropylene, etc. Their physical properties can be a solid or an injectable liquid depending on the chemistry of the polymer chain backbone, the average number of the repeating units in the chain and the density of cross-linkage. Clinical application sites such as the nose, chin, trachoea, breasts, chest, tendon prostheses, vascular prostheses, structural support devices such as mesh and sutures need the solid form of silicone and PTFE.

I would like to limit our discussion in the history of filling up the body with liquid injectable materials. They have been widely used in reconstruction and aesthetic work due to their ease to use. The history of the use of injectables is presented as follows.

Autologous vs. Synthetic

In fact the first recorded tissue implantation was the use of autologous fat. It was dated back to 1893 when Neuber[2] first used autologous free fat from the arms to reconstruct depressed facial defects. In 1899, Gersuny[3] injected paraffin into a scrotum as a testicular prosthesis to provide aesthetic correction after resection of advanced tuberculosis testis. Because of their readiness in use and without donor site morbidity, synthetic materials have been predominately used as tissue fillers since 1940. Until 1986, modern autologous fat transplantation returned with the evolution of liposuction.

Classifications

Fillers are generally classified as autologous, biological and synthetic. They can also be categorised into temporary, longer lasting, semi-permanent and permanent. The designated durations can be defined as less than 6 months, 6 months to 2 years, 2 to 5 years and more than 5 years. Some will group them into the level of injection: dermal, subdermal and supraperiosteal. I would like to describe them according to the timeline of usage and hopefully can give readers an idea of the development of the commonly used products.

Timeline

1893 - 1920s	fat grafting
1900 - 1920s	paraffin oil
1940s	liquid silicone
1980s	fat grafting revival
1981	Bovine collagen (Zyderm)
2003	Human-derived collagen (CosmoDerm); First nanaminal-based hyaluronic acid (NASHA) Restylane
2004	Animal-based hyaluronic acid (Hylaform); Poly-L-lactic acid (Sculptra)
2006	Non-animal-based stabilised hyaluronic acid (Juvederm/Elevess); Calcium hydroxyapatite (Radiesse)
2008	Non-animal-based hyaluronic acid (Prevelle Silk); porcine collagen (Evolence)

Temporary Fillers

Injectable Bovine Collagen

Bovine collagen was the first non-autologous filler approved by the FDA in 1981 for the treatment of wrinkles, smile and frown lines, acne and postsurgical scars[4]. It has an excellent long-term safety profile and can be injected into the dermis. Unfortunately there are 2 downside associated with collagen injection. They are relatively short in longevity, typically lasting for 3 to 6 months. Gormley and Eremia[5] noted there will be a 75% loss in correction in 6 months. It is mandatory to have double skin testings before injection. It is estimated that 3% of patients are positive in immunogenicity against bovine collagen. Two weeks before the injection of bovine collagen, 0.1ml of collagen is injected subcutaneously. Erythema, swelling, induration, tenderness and/or pruritus suggest immunogenicity. Negative first injection test requires a second injection as 1.3% of patients[6] will have positive tests during the second test.

The following products, though having been approved by FDA, were voluntary withdrawn from the market and were no longer available for use.

Zyderm 1 (Allergan) was introduced in 1981 as an injectable bovine collagen. It contained 35mg/ml collagen phosphate-buffered saline solution and 0.3% lidocaine. It was useful in treating fine lines, wrinkles and shallow scars by injecting into the superficial papillary dermis.

Zyderm 2 (Allergan) was of higher concentration of collagen of 65mg/ml with 0.3% lidocaine. It was for deeper injections at the mid-dermis level.

Zyplast (Allergan) consisted of 35mg collagen in 0.3% lidocaine and was approved by FDA in 1985. It consisted of cross-linked collagen with 0.0075% glutaraldehyde and provided a longer lasting effect and less immunogenicity. It was also for deep dermal injection.

Allogeneic Products

Evolence (Ortho Dermatologies, Skillmann, NJ) was a 35mg/ml type I collagen extracted from porcine tendons. It was approved by FDA in 2008. It did not require skin tests before injection due to its low immunogenicity. It was longer lasting and the clinical effects could be seen up to one year after injection. However there was a high incidence of nodule formation when injected into the lips. The manufacturer had discontinued the production.

Injectable Human derived collagen

CosmoDerm1, CosmoDerm 2, CosmoPlasti (Allergan) were human-derived collagen equivalents of Zyderm and Zyplast. They are purified human-derived collagen produced from human fibroblast cells and hence immunogenicity is not an issue. They were approved by FDA in 2003 and overcorrection to 150% is necessary for achieving desirable results. They were also been withdrawl from the market.

Long lasting Injectables

Hyaluronic Acid (HA) Products

HA is a glycosaminoglycan biopolymer present in all connective tissues in living organisms. Chemically it is the same for all species and hence a skin test is not necessary. HA is hydrophilic and provides a structural matrix to keep moisture within the dermis. One gram of HA can bind up to 6L of water [7]. Generally its clinical effects last for 6 to 9 months. It can either be derived from rooster combs or non-animal-based HA produced from bacterial fermentation by the Streptococcus species.

Naturally occurring HA has a half-life of 20 hours while hyaluronic gel, known as Hylans are cross-linked HA at varying degrees to improve longevity and stability. Dynamic viscosity of hyaluronic gels enables it to be prescribed in decreasing viscosity during the time of injection. After having been implanted in the desirable site, its viscosity increases and thus reduces the risk of migration. HA undergoes sovolumatric degradation which makes it more predictable during the absorption process.

Non-animal-based stabilised HA injectables – Restylane (Medicis Aesthetics) was the first HA approved by FDA in 2003 for the correction of moderate to severe facial wrinkles and folds, such as nasolabial folds. It is produced from bacterial fermentation of Streptococcus equi at a concentration of 20mg/ml. Different degrees of cross-linkage produce products of different longevities and viscosities. Hence Restylane can be used for the correction of fine lines and wrinkles, while Perlane is designed for deep injections and longer longevity.

Macrolane was introduced in 2007 by Per Heden after a pilot study carried out in 2004 as a body shaping material. These gels are used in large volumes in the body. It is a non-animal-stabilised-hyaluronic acid (NASHA) absorbable product. It is available in two formulations, namely Macrolane VFR 20 and Macrolane

VFR 30 for achieving different levels of tissue support. The Macrolane 20 is used in areas of the body with less tissue support to cover, such as the breast area in thin patients. Macrolane 30 is used in areas with thick tissue coverage such as the buttock area. It has been approved in more than twenty countries including the UK, though it has never been approved for use in breast enhancement in the United States. In August 2011, the French Agency for Safety and Health Products had ruled that Macrolane could no longer be used in aesthetic breast augmentations based on the fact that the company failed to provide satisfactory explanation to their enquiry.

Animal-based HA injectables –Hylaform (Allergan) was approved in 2004 for use as deep wrinkle correction such as the nasolabial folds[8]. It is derived from rooster combs with a concentration of 5.5mg/ml of HA with 20% cross-linkage. It is contraindicated in patients with a known history of hypersensitivity to avian proteins.

Juvederm (Allergan) has a concentration of 24mg/ml HA with more cross-linking. It was approved by FDA in 2006 for injection to the mid to deep dermis. Juvederm is also a non-animal-based HA injectable produced from S. equi bacterial fermentation. The particles are non-uniformly shaped for a smoother gel consistency. Ultra and Ultra Plus Juvederm are of different cross-linkage and particle sizes.

Hydelle, formally Elevess, (Anika, Bedford, MA) is a cross-linked HA produced from S. equi bacterial fermentation and is suspended in a buffer solution of 0.3% lidocaine.It was the first FDA-approved soft-tissue injectable combining HA and lidocaine.

Prevelle Silk (Mentor, Santa Barbara, CA) is a bacterial-derived HA with 0.3% lidocaine. It was FDA approved in 2008. Its effect lasts for approximately 4 months after injection.

Semipermanent fillers

Poly-L-lactic Acid (PLLA)

PLLA is a biodegradable, nontoxic, synthetic and inactive material derived from corn starch in the alpha hydroxyl acid family. Sculptra (sanofi-aventis U.S., LLC, Bridgewater, NJ) was FDA-approved in 2004 for the restoration and correction of lipoatrophy in patients receiving treatment for human immunodeficiency virus inflections. In 2009, Sculptra Aesthetic was approved by FDA for the correction of shallow to deep nasolabial fold contour deficiencies.

Sculptra contains PLLA microspheres in a powdered form. It is mixed with water and injected to sites of interest. The PLLA is metabolised to carbon dioxide, glucose and water several weeks after injection. The long term soft tissue augmentation is caused by the foreign body giant cell reaction that leads to the gradual production of type I collagen into areas of injected PLLA microspheres. This occurs through a process of hydration, loss of cohesion and molecular weight, and solubilisation and phagocytosis of PLLA by the host's macrophages. PLLA is slowly degraded into lactic acid microspheres and CO_2 through non-enzymatic hydrolysis. CO_2 is removed via breathing while the crystals stimulate collagen and a granulomatous reaction. This inflammatory reaction elicits resorption, formation of fibrous connective tissue about the foreign body, dermal fibroplasia that leads to a desirable volumising effect. It is used to correct 3-dimensional volume defects. It often requires a series of injections ranging from 2-4 or more depending on the volume of deficiency. The clinical effects can last for 18 to 24 months[9].

Calcium Hydroxylapatite (CaHA)

CaHA is a naturally occurring component of bone in the body. It does not require sensitivity tests. It acts as a biostimulatory scaffold for collagen ingrowth and has been used in dental, orthopaedic, urological and vocal cord applications for over 20 years. Radiesse (Bioform Medical, San Mateo, CA) was approved by the FDA in 2006 to correct the signs of lipoatrophy in patients undergoing HIV treatment. It contains 24-45 μm CaHA spheres suspended in a 70% aqueous carboxymethylcellulose gel. It is for deep injection subdermally or intramuscularly. The gel matrix will be absorbed in 6-8 weeks but the CaHA microspheres remain. These particles act as a scaffold for the formation of new tissues and there is evidence of new collagen formation around the microspheres. Radiesse is a long-lasting but non-permanent filler. Over the time of one year, the CaHA particles will be broken down via normal metabolic processes and are excreted. However if it is injected to the lip, more than 20% of patients developed nodules [10,11].

Permanent fillers

Polymethylmethacrylate (PMMA)

PMMA, known as Plexiglas, Acrylite, Lucite, and acrylic glass, was developed in 1928. It has been used in numerous medical applications including bone cement, lenses, dental work and pacemakers.

ArteFill (Suneva, SanDiego, CA) is a 20% PMMA homogenous 30-42μm microspheres in a 3.5% bovine collagen solution mixed with 0.3% lidocaine[12] in gel suspension. It requires a skin test one month before injection. Artefill was FDA approved in 2006 for the correction of nasolabial folds. After injection, the collagen provides immediate correction. Collagen will be absorbed with time but the microspheres stay to keep the clinical effect.

Paraffin

Paraffin was quite popular during the early 1900s. However as early as 1902, there was evidence that injections of paraffin and other oils were associated with a high incidence of undesirable foreign body granuloma formation and migration to other parts of the body[13]. It was largely banned in the US and Europe prior to 1920. Unfortunately paraffin injections were still widely used in Oriental countries till 1960s[14].

Silicone

Silicone is in itself a synthetic compound. The liquid silicones for medical use are long polymers of dimethylsiloxanes. In 1940s, there were a lot of patients injected with liquid silicones in German, Swiss and Japan. The first liquid silicone injection was probably performed in Japan. There were many promising results with liquid silicone injections. However numerous disastrous complications resulted in the use of impure silicones[15]. Foreign body type siliconomas can occur up to 11 years after implantation, even with the highly refined, medical grade Dow-Corning MDX4-4011 and the microdroplet technique[9].

Highly viscous silicone – Adatosil- 5000 and Silikon – 1000 have been approved as ophthalmic devices for injection into the eye for use as a prolonged retinal tamponade agent in selected cases of complicated retinal detachment. PMS-350 has recently achieved CE certification in Europe after 15 years. It is a highly viscous silicone used for glabellar lines, nasolabial folds, perioral lines, lip augmentation, atrophic disorders and scars. It is distributed by Vikomed in Germany.

Autologous Fat

Autologous fat is the original injectable[16] in early last century. It is fully biocompatible and plentiful. However the degree of permanency varies according to the techniques. It was soon replaced by the use of pedicle flaps with blood supplies, which produced more predictable results. The modern phase of fat transplant started in 1970s when Fischer and Fischer reported on the "extraction of fat with cellusuctiotomy"[17]. In the late 1970s, Yes-Gerard Illouz introduced liposuction and he also reported reinjecting viable fat after liposuction surgery[18]. In 1987, Klein introduced the tumescent technique with which liposuction became less traumatic and liposuction ould be done more accurately and uniformly with faster post-operative recovery[19-21]. Fournier[22] used microcannula for fat transfer. With recent improvements of technique by Coleman[23], in harvesting, handling, and grafting, more acceptable patient satisfaction resulted[23-26].

The continuous development of new artificial injectables and advancements in autologous fat injection for correction of contour deficiency make the quest of searching for an ideal injectable implant coming to near perfect now becoming a reality. It is important to remember that a near ideal injectable is the prerequisite for any successful treatment. The understanding of the anatomy and the application of a suitable technique for each particular injectable material is of utmost importance in achieving a satisfactory result.

References

1. Fallopius G. Opera Omnia. Francofurti: Wechli A, 1600
2. Neuber F. Fettransplantation. Chir Kongr Verhandl Dsch Gesellch Chir 1893;22:66
3. Gersuny R. Ueber eine subcutane prothese. Ztschr Heilkunde 1900;199-204
4. Knapp TR, Kaplan EN, Daniels JR. Injectable collagen for soft tissue augmentation. Plastic Reconstr Surg 1977;60:398-405
5. Gormley DE, Eremia S. Quantitative assessment of augmentation therapy. J Dermatol Surg Oncol 1990;16:1147-1151
6. Kamer FM, Churukian MM. Clinical use of injectable collagen: A three-year retrospective review. Arch Otolaryngol 1984;110:93-98
7. Monheit GD. Hyaluronic acid fillers: Hylaform and Captique. Facial Plast Surg Clin North Am 2007;15:77-84
8. Rohrich RJ. Semipermanent and permanent dermal/subdermal fillers supplement. Plast Reconstr Surg 2006;118(suppl3):1S-3S
9. Broder KW, Cohen SR. An overview of permanent and semipermanent fillers. Plastic Reconstr Surg 2006;118(suppl3):7S-14S
10. Sklar JA, White SM. Radiance FN: A new soft tissue filler. Dermatol Surg 2004;30:764-768
11. Alam M, Gladstone H, Kramer EM, Murphy JP Jr, Nouri K, Neuhaus IM, Spencer JM, Spenceri E, Van Dyke S, Ceilley RI, Lee KK, Menaker G, Monheit GD, Orentreich DS, Raab B, Smith KC, Solish NJ. ASDS Guidelines of care: Injectable fillers. Dermatol Surg 2008;34(suppl 1): S115-S148
12. Lemperle G, Romano JJ, Busso M. Soft tissue augmentation with Artecoll: 10-year history, indications, techniques, and complications. Dermatol Surg 2003;29:573-587
13. Eckstein H. Ueber subkutance and submukose Hart-paraffinprosthesen. Deutsche Med Wochenschrift 1902;28:573-6
14. Matton G, Amseeuw A, De Keyser F. The history of biomaterials and the biology of collagen. Aesth Plast Surg 1985;9:133-40
15. Klein AW, Elson ML. The history of substances for soft tissue augmentation. Dermatol Surg 2000;26:1096-1105
16. Neuber F. Fettransplantation (in German). Chir Kongr Verhandl Dsch Gesellch Chir 1893;22:66
17. Rohrich RJ, Nguyen AT, Kenkel JM. Lexicon for soft tissue implants. Dermatol Surg 2009;35(suppl2): 1605-1611
18. Illouz YG. The fat cell "graft", a new technique to fill depressions. Plast Reconstr Surg 1986;78:122-3
19. Klein JA. The tumescent technique for liposuction surgery. Am J Cosm Surg 1987;4:236-67
20. Lilis PJ. Liposuction surgery under local anaesthesia: limited blood loss and minimal lidocaine absorption. J Dermatol Surg Oncol 1988;14:1145-8
21. Hanke CW, Bernstein G, Bullock S. Safety of tumescent liposuction in 15,336 patients. Dermatol Surg 1995;21:495-62
22. Fournier P. Body sculpturing through syringe liposuction and autologous fat re-injection. Paris: Samuel Rolf International; 1987.
23. Coleman SR. Structural fat grafting. Aesthet Surg J. 1998;18:386,388
24. Coleman SR. Structural fat grafting: more than a permanent filler. Plast Reconstr Surg 2006;118(suppl3):108S-120S
25. Smith P, Adams WP Jr, Lipschitz AH, Chau B, Sorokin E, Rohrich RJ, Brown SA. Autologous human fat grafting: Effect of harvesting and preparation techniques on adipocyte graft survival. Plast Reconstr Surg 2006;117:1836-1844
26. Kaufman MR, Bradley JP, Dickinson B, Heller JB, Wasson K, O'Hara C, Huang C, Gabbay J, Ghadjar K, Miller TA. Autologous fat transfer national consensus survey: Trends in techniques for harvest, preparation, and application, and perception of shrot- and long-term results. Plast Reconstr Surg 2007;119:323-331

MCHK CME Programme Self-assessment Questions

Please read the article entitled "History of Filling up the Body" by Dr. Peter CW PANG and complete the following self-assessment questions. Participants in the MCHK CME Programme will be awarded CME credit under the Programme for returning completed answer sheets via fax (2865 0345) or by mail to the Federation Secretariat on or before 30 November 2012. Answers to questions will be provided in the next issue of The Hong Kong Medical Diary.

Questions 1-10: Please answer T (true) or F (false)

1. Silicone is a naturally occurring compound.
2. Bovine collagen requires skin sensitivity tests before the injection treatment.
3. Hyaluronic Acid is present in all connective tissues in living organisms.
4. The natural half life for hyaluronic acid is 6 months.
5. Animal-based hyaluronic acid is derived from chicken tendon.
6. Poly-L- lactic Acid causes foreign body giant cell reaction.
7. Calcium hydroxylapatite is useful in lip augmentation.
8. Paraffin injections have not been used as an injectable material for augmentation.
9. Autologous fat augmentation is fully biocompatible.
10. The autologous fat transfer success rate improves with the use of micro-needles for the injections.

ANSWER SHEET FOR NOVEMBER 2012

Please return the completed answer sheet to the Federation Secretariat on or before 30 November 2012 for documentation. 1 CME point will be awarded for answering the MCHK CME programme (for non-specialists) self-assessment questions.

History of Filling up the Body

Dr. Peter CW PANG

MBChB, FRCS(Ed), FHKAM(Surgery)

Specialist in Plastic Surgery

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐

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Answers to October 2012 Issue

Neuroimaging for Parkinson's Disease

1. F 2. F 3. T 4. T 5. F 6. T 7. F 8. T 9. F 10. F

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Current Status of Lipo-injection of the Breast

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President, The Hong Kong Society of Plastic, Reconstructive & Aesthetic Surgeons

Dr. David SY WONG

Lipofilling of the breasts refers to the transfer of autologous adipose tissue from other parts of the body where it is spared to the breasts as a filler for volume enhancement.

Injecting the breasts for cosmetic augmentation predated the emergence of the present day well-known breast implants. Beginning almost 2 centuries ago[1] but increasingly from the start of the twentieth century, various substances including paraffin, vaseline, various hydrocarbon derivatives (e.g. Organogen, Bioplax) and then silicone oil[2] have been employed. These substances almost invariably migrated from the injected sites and excited a chronic granulomatous inflammation and may be complicated by recurrent episodes of infection and ulceration which could be lethal necessitating mutilating aggressive debridement surgery[3]. It has been mentioned by some authors that injection mammoplasty gained particular popularity in the post Second World War Japan[4].

The Implant Solution

Containment of the stuffing substance within a shell came about in 1962 when Dow Corning, the big manufacturer of silicone for industrial and medical uses, released the first breast implant[5] in order to avoid the problematic sequelae of freely injected silicone into the breasts. Despite the so-called 5 generations of evolution of breast implants, we are still waiting for the perfect implant which is natural, biocompatible and permanent. Undeniably a breast implant is always a piece of foreign body in the body. It is fair to say that there is still much to be addressed and skepticism remains as to the long-term safety of the present day implants.

Autologous Fat as an Ideal Filler

The use of autologous fat for breast augmentation is equally not a new innovation. Initial applications in the early half of the twentieth century mostly employed surgically excised blocks of fat or dermal-fat grafts[6] and were often followed by problems with volume loss and the scars of incisions of access[7]. Attempts came to a halt in the mid fifties, often attributed to the classical studies of Peer[8], when it was demonstrated that there was only a 50% retention rate of the transferred fat at 1 year from the surgery.

With the maturation and popularisation of liposuction techniques in the subsequent decades, particularly by Illouz[9,10], and subsequent successes seen with lipo-filling of irregularities and deformities of various parts of the body most notably the face[11-13], isolated surgeons and reports of attempts at fat injection into the breasts were witnessed during the latter part of the twentieth century[14-16]. There has been a general contempt in the plastic surgery circle towards such practices all along, however, because of the observation of calcifications appearing in the breasts interfering with mammographic interpretation[17, 18]. Furthermore, it is also a well-known fact that death of transplanted fat cells would cause fibrotic masses and necrotic cysts to form[19], besides a loss of the volume augmented, so-called 'resorption'. It was Bircoll's report[20] in 1987 that open resentment was triggered in the literature[21-25] over the concern with the clinical and radiological detection of early cancer. The American Society of Plastic and Reconstructive Surgeons (ASPRS) Ad Hoc Committee on New Procedures later in that year announced a position statement warning against the use of fat injection into the breasts for the purpose of breast augmentation[26].

Revival of the Approach

The attitude changed gradually, since the mid-nineties, largely owing to the findings of Sydney Coleman and his group[27], who have demonstrated a particular technique of fat harvesting and preparation which could produce a good yield of surviving transplanted fat cells[28] and thus could at least theoretically do away with the calcification problem. The term lipostructure[29] has been suggested in contradistinction to lipofilling as referring to the previous practice of fat filling for volume augmentation using fat not harvested and applied using the described technique. Interest in the approach was stirred up and increasing reports of successful augmentation with fat injection swiftly followed. The acceptance seemed to have been overwhelming. In 2009, the American Society of Plastic Surgeons (ASPS), after having studied the literature again concerning the new approach, came to the conclusion that fat grafting of the breasts is an acceptable form of intervention but pointed out that a number of questions were awaiting answers from further experience of the technique[30].

The New Technique

What the Coleman technique dictates is a standardised form of harvesting, processing and delivery of autologous fat[31] as a result of which his group was able to demonstrate a better survival of the transplanted fat[28].

However, authorities have since been doing lipo-transfer in numerous different ways with respect to all the 3 aspects and there are a lot of controversies which is the better methodology. Thus, harvesting has been done with a handheld syringe[31] in place of mechanical suction-assisted devices. Different makes and designs of cannulae abound[32-36]. The tumescent solution employed was that described originally by Klein[37, 38] but also different variations of it. The aspirated fat has been used directly for injection[35] or could be settled by gravity[39-41] to allow concentration of the fat cells. Some have washed the fat[41-43] to remove the injected tumescent fluid, some used filtration[44], and some have used a Tulfa pad[35, 45] to absorb the fluid. Yet others have used a 'no touch' technique[46] to avoid contamination by the medications and the blood. Some have followed Coleman in centrifuging the fat but under different centrifugal forces[33, 47] and different durations each with its own rationale with claims of superiority. Yet others have used commercial kits [35] (e.g. LipiVage®) and hardwares[32] (e.g. Celution 800 System®, PureGraft®) to produce various fat solutions containing different percentages of fluid mixed with fat. Delivery is similarly confusing and different devices[31-33, 45] have been described to ensure the deposition of small aliquot beads of fat along tunnels in a tri-dimensional grid lattice pattern from deep to superficial to increase contact with host tissue for better neovascularisation. The amount of fat injected per pass of needle has varied from 0.2ml[48] to 2-3 ml of fat[41]. The amount of fat transplanted per session similarly varies widely and has been in the order of a few tens of cubic centimetres up to megavolumes of over 300cc[47]. Some over-correct[43, 49] to cater for inevitable shrinkage from oedema and resorption, others do not. Most authorities have used the infra-mammary approach for injection but the axillary route[42] has been employed by others. With such wide variations in practice and so many variables, the optimal standard is still to be known. It would seem that the significance of the Coleman technique lies in the longer term in its principle[31] that meticulous atraumatic handling and preservation of the viability and growth potential of aspirated adipocytes are essential in lipo-transfer, a good take and permanence of result. Modifications of its details by other authors should eventually allow the best parameters to be clarified.

Lipo-transfer for breast augmentation itself is simple in principle. Fat is aspirated from the lower abdomen, flanks or the thighs. Injection is into the subcutaneous plane over the breasts and the retromammary space behind the gland[41]. Some authorities have described injection into the pectoral muscle itself[27]. It is usually regarded that pre-treatment screening imaging for cancer is essential. Post-treatment imaging is also recommended to provide a baseline for future comparison purposes[49].

How does Fat Transplant Work?

There are 2 theories as to what happens after lipo-transfer. In 1923, Neuhof and Hirschfeld[50] observed that transplanted fat degenerated and eventually became fibrous tissue with some nearby cells undergoing metaplasia into fat cells. This came to be known as the 'host cell replacement theory' of fat grafting. Lyndon Peer[8] some 30 years later found that actually 50% of the fat transplanted did survive and we refer to this today as the 'cellular survival theory'. It is obvious that both phenomena contribute to the final outcome of the grafted fat[31]. The part played by stem cells in lipo-transfer has only been understood better in recent years[52]. A stem cell is a cell which possesses the capacity to self-replication and to produce daughter cells that have a more specialised function. Adipose-derived stem cells (ADSC) have been found to be able to undergo multi-lineage differentiation into various types of tissues. This latter feature may explain the beneficial changes observed in fat grafted sites apart from structural filling[31, 34] (vide infra).

Results so far

Reports so far have indicated very satisfactory aesthetic results with some series claiming an increase of slightly up to more than 1 cup size,[14, 32] to 2 to 3 cups[33]. Examples of permanent results are usually presented as examples of success,[27, 32-33, 40, 41, 48] but the reported series are usually not big enough to give statistical figures. The final volume has been seen from 2 to 6 months or even up to a year[31] and repeated injections of 2 to 3 times are common. There are also reports of complications from fat grafting of the breasts. The incidence of abnormal calcification on mammography after lipo-transfer to the breast is about 10%[38], including injection site infection, fat necrosis, and scarring. The general consensus is that small volume deposits may give rise to fibrotic masses which can be accompanied by microcalcifications while big volume necrosis can cause liponecrotic cysts, calcifications, and indurations[53]. Most of these reports are, however, short reports of isolated or relatively few cases[17, 37, 53]. The essence appears to be the avoidance of producing a 'lake' of fat[54] because the transferred fat depends on imbibition in the first 4 to 8 days of its survival and then inosculation[31, 52]. A distant source of "nearby" vasculature is therefore detrimental[54].

Enhancement of the Take of the Grafts

Alongside this development, there are reported attempts at enhancing the survival of the transplanted fat cells so as to counter the problem of partial loss of the volume augmented with time. The concept of enhancement again is not new. As far back as 1956, insulin was reported to be useful in prolonging the survival of fat cells in cultures[55] and its use in fat grafting was once employed[20]. More recently, Yoshimura's group[33] has divided the aspirated fat into 2 portions, one for transplantation and the other for the processing of a stem-cell rich concentrate which is added to the first portion before injection. The rationale supporting the use of such adipose-derived stem cells (ADSC) is that they could possibly help in the neovascularisation process, condition the local environment and act as a source of new adipocytes themselves[33, 56, 57]. In fact, an ordinary fat aspirate carries fat cells as well as ADSC because fat is a rich source of progenitor cells more than the case with marrow and blood[52, 58, 59]. The quantity of ADSC, however, may be decreased with the washing of the aspirate to get rid of the tumescent fluid which is believed to be unfavourable to adipocyte survival. Another approach has been the use of activated platelet-

rich plasma (PRP). PRP is a platelet concentrate that has been widely used to accelerate wound healing[60]. The α-granule of blood platelets contains a variety of secretory proteins such as growth factors, cytokines and chemokines which can facilitate adipose cell take[61]. Despite much enthusiasm and publicity, these strategies remain experimental at the time of this writing in that no definitive prospective controlled study of efficacy in vivo is yet available.

More than just a Filler

There are also observations that fat transplanted is not acting merely as a stuffing material. Adipose-derived mesenchymal progenitor cells are useful to rejuvenate, repair and remodel the tissues in the vicinity of the injection[31, 34]. Stem cells certainly play a vital role in these effects but details of the mechanisms are still under research at the present moment[52].

Hyaluronic acid

Though not strictly on lipo-transfer, it is interesting to mention another material which has lately become popular as a material for injection augmentation mammoplasty. This is a long half-life hyaluronic acid marketed under the trade name of Macrolane. Soon after the availability of this material it has been widely used in Europe and other countries. The appeal of Macrolane lends itself to the widespread acceptance of related products such as Restylane, also a hyaluronic acid, which has been a welcomed filler for irregularities and creases on the face. However, the advantages and safety considerations of Macrolane are largely theoretical and translational. According to the AFSSAPS (the French counterpart of the US FDA), its manufacturer had failed to submit the necessary documentation of the product's safety profile so that Macrolane is no longer allowed to be used in France for cosmetic augmentation mammoplasty since August 2011[62, 63].

Pre-Expansion and Fat Grafting

An interesting recent finding in relation to lipo-transfer to the breast is that of the use of the BRAVA® external mammary suction device[64]. It was reported that prior pre-expansion[65] of the breasts using this device allows the successful injection of megavolumes of fat which would stay[66].

Applications in the cancer patient

One area of particular controversy is the use of fat grafting in the correction of contour irregularities in post conservative cancer surgery breasts and in revisions of reconstructed breasts subsequent to cancer[67,68]. The potential applications in this regard includes: step-off deformities, irregularities from the flap (e.g. umbilical region of TRAM, fat necrosis), rippling of implants, as well as scarring and post-lumpectomy defects[45]. Recent reports demonstrated that there is a low surgical complication rate up to about 10%[35], higher in irradiated patients. Repeat sessions of injection have been common[35, 45]. There, however, remains a theoretical risk of stimulation of cancer growth in view of the inevitable introduction of adipose-derived stem cells[67] and at this point we do not have a definite answer to the question[69]. No definite evidence of a higher local recurrence has been seen in the scanty reports available so far but the periods of follow up have been unanimously short. Any claim of oncologic safety in this context is arguably preliminary. The ASPS Fat Graft Task Force has recommended caution be exercised when considering high risk patients for autologous fat grafting to the breast. Such high-risk patients would include those with a personal or family history of breast cancer or who are known BRCA mutation carriers[30].

The old Radiologic Problem

The history of fat grafting of the breast has all along been controversial due to reports of its radiologic sequelae[17, 18, 40, 53]. Despite theoretical claims of impunity with refined technology and better understanding of the scientific basis of the transfer, reports of nodularities[40] and calcification are still encountered. The incidence of abnormal calcification on mammography after lipo-transfer to the breast is likely to be in the range of 15%[33, 41, 48, 70, 71], although some series gave higher figures[40, 72]. Recent reports seem to agree that most calcifications found on mammograms caused no hindrance to interpretation on follow up[71, 73]. A closer collaboration with a dedicated radiologist is helpful[73]. It would seem that if radiologists can differentiate benign from malignant calcifications as they often can in other causes of breast calcifications[74-78], the detection of recurrence should not be necessarily hindered.

Conclusion

To summarise, at the present stage of development, it seems definitely possible to produce long-term good results from fat grafting of the breast for augmentation or correcting deformities. We understand much better than before the necessary care to take to increase the success in take. Enhancement with stem cell technology seems to be promising. Complications are not serious enough to hinder the use of this approach. Concerns with surveillance of breast cancer appear over-exaggerated if the distinction between benign and malignant calcifications can be made. There are still uncertainties with fat grafting in post cancer patients due to the theoretical risk of tumour cell stimulation. Last but not least, fat transplantation is highly technique dependant.

The Way Forward

The field is undergoing rapid developments in the past decade and further knowledge will be forthcoming with further experience in the application of this approach. Standardisation should be the eventual goal when sufficient knowledge has been accumulated to give an evidence-based set of criteria.

Is there a future for lipo-transfer breast augmentation? The answer is definitely in the affirmative. The fat

transferred is autogenous. It is in plentiful supply, taken from areas where it is not wanted, with concomitant body contouring. It is not immunogenic and is permanent if it survives[31,79]. There are no problems related to the presence of a foreign body implant. The procedure is not excessively complicated and is less invasive than implant insertion. There is no or very minimal scarring with the incisions necessary. It all sounds too good to be true!

References

1. Chan CW, McCulley SJ, Macmillan RD. Autologous fat transfer – A review of the literature with a focus on breast. J Plast Reconstr Aesthet Surg 2008; 61:438-48.
2. Beekman WH, Hage JJ, Jorna LB et al. Breast Augmentation: The story before the silicone bag prosthesis. Ann Plast Surg 1999; 43:446-51.
3. Okubo M, Hyakusoku H, Kanno K et al. Complications after injection mammoplasty. Aesthet Plast Surg 1992; 16:181-7.
4. Ohtake N, Koganei Y, Itoh M. Postoperative sequelae of augmentation mammaplasty by injection method in Japan. Aesthet Plast Surg 1989; 13:67-74.
5. Cronin TD, Gerow FJ: Augmentation mammaplasty: A new natural feel prosthesis. In: Transactions of the Third International Congress of Plastic Surgery, Oct. 13-18, 1963, Amsterdam, The Netherlands. Excerpta Medica Foundation. 1963. p41-49.
6. Bames HO. Augmentation mammaplasty by lipo-transplant. Plast Reconstr Surg 1946; 11:404-12.
7. Coleman WP. The history of liposuction and fat transplantation in America. Dermatol Clin 1999; 17:723-7.
8. Peer LA. Loss of weight and volume in human fat grafts with postulation of "cell survival theory." Plast Reconstr Surg 1950; 5:217-30.
9. Illouz YG. Present results of fat injection. Aesthet Plast Surg 1988; 12:175-81.
10. Illouz YG. The fat cell "graft": A new technique to fill depressions. Plast Reconstr Surg 1986; 78:122-3.
11. Silkiss RZ, Baylis HI. Autogenous fat grafting by injection. Ophthal Plast Reconstr Surg 1987; 3:71-5.
12. Shorr N, Christenbury JD, Goldberg RA. Free autogenous "pearl fat" grafts to the eyelids. Ophthal Plast Reconstr Surg 1988; 4:37-40.
13. Chajchir A, Benzaquen I. Fat-grafting injection for soft-tissue augmentation. Plast Reconstr Surg 1989; 84:921-34.
14. Bircoll M, Novack BH. Autologous fat transplantation employing liposuction techniques. Ann Plast Surg 1987; 18:327-9.
15. Matsudo PK, Toledo LS. Experience of injected fat grafting. Aesthet Plast Surg 1988; 12:35-8.
16. Fournier PF. The breast fill. In Liposculpture: The Syringe Technique. Paris. Arnette-Blackwell. 1991. p357–67.
17. Castello, JR, Barros J, Vazquez R. Giant liponecrotic pseudocyst after breast augmentation by fat injection. Plast Reconstr Surg 1999; 103:291-3.
18. Maillard GF. Liponecrotic cysts after augmentation mammaplasty with fat injections. Aesthet Plast Surg 1994; 18:405-6.
19. Lazzaretti MG, Giovanardi G, Gibertoni F et al. A late complication of fat autografting in breast augmentation. Plast Reconstr Surg 2009; 123:71e-72e.
20. Bircoll M. Cosmetic breast augmentation utilizing autologous fat and liposuction techniques. Plast Reconstr Surg 1987; 79:267-71.
21. Vizcaino JM, Montilla PB, Ruiz JB. Complications of autografting fat obtained by liposuction. Plast Reconstr Surg 1990; 85:638-9.
22. Hartrampf CR, Bennett GK. Autologous fat from liposuction for breast augmentation. Plast Reconstr Surg 1987; 80:646.
23. Ettelson CD. Fat autografting. Plast Reconstr Surg 1987; 80:646.
24. Linder RM. Fat autografting. Plast Reconstr Surg 1987; 80:646-7.
25. Baibak GJ. Liposuction. Fat autografting. Plast Reconstr Surg 1987; 80:647.
26. ASPRS Ad-Hoc Committee on New Procedures. Report on autologous fat transplantation. Plast Surg Nurs 1987; 7:140-1.
27. Coleman SR, Saboeiro AP. Fat grafting to the breast revisited: safety and efficacy. Plast Reconstr Surg. 2007; 119:775-85.
28. Pu LL, Coleman SR, Cui X et al. Autologous fat grafts harvested and refined by the Coleman technique: a comparative study. Plast Reconstr Surg 2008; 122:932-7.
29. Coleman SR. Facial augmentation with structural fat grafting. Clin Plast Surg 2006; 33:567-77.
30. Gutowski KA, ASPS Fat Graft Task Force. Current applications and safety of autologous fat grafts: A report of the ASPS Fat Graft Task Force. Plast Reconstr Surg 2009; 124:272-80.
31. Coleman SR. Structural fat grafting more than a permanent filler. Plast Reconstr Surg 2006; 118(Suppl):108S-120S.
32. Kamakura T, Ito K. Autologous cell-enriched fat grafting for breast augmentation. Aesthet Plast Surg 2011; 35:1022–30.
33. Yoshimura K, Sato K, Aoi N et al. Cell-assisted lipotransfer for cosmetic breast augmentation: Supportive use of adipose-derived stem/stromal cells. Aesthet Plast Surg 2008; 32:48–55.
34. Guisantes E, Fontdevila J, Rodríguez G. Autologous Fat Grafting for Unaesthetic Scars Correction. Ann Plast Surg 2011 [epub ahead of print]. DOI: 10.1097/SAP.0b013e31821ee386.
35. Losken A, Pinell XA, Sikoro K. Autologous fat grafting in secondary breast reconstruction. Ann Plast Surg 2011; 66:518-22.
36. Salgarello M, Visconti G, Rusciani A. Breast fat grafting with platelet-rich plasma: A comparative clinical study and current state of the art. Plast Reconstr Surg 2011; 127:2176-85.
37. Klein JA. The tumescent technique. Anesthesia and modified liposuction technique. Dermatol Clin. 1990; 8:425-37.
38. Klein JA. The tumescent technique for liposuction surgery. Am J Cosmet Surg 1987; 4:263-7.
39. Mojallal A, Saint-Cyr M, Garrido I. Autologous fat transfer: Controversies and current indications for breast surgery. J Plast Reconstr Aesthet Surg 2009; 62:708-10.
40. Wang H, Jiang Y, Meng H. Sonographic identification of complications of cosmetic augmentation with autologous fat obtained by liposuction. Ann Plast Surg 2010; 64:385-9.
41. Zocchi ML, Zuliani. Bicompartmental breast lipostructuring. Aesthet Plast Surg 2008; 32:313-28.
42. Fournier PF. Fat grafting: My technique. Dermatol Surg 2000; 26:1117-28.
43. Rubin A, Hoefflin SM. Fat purification: Survival of the fittest. Plast Reconstr Surg 2002; 109:1463-4.
44. Kuran I, Tumerdem B. A new simple method used to prepare fat for injection. Aesthetic Plast Surg 2005; 29:18-22.
45. Kanchwala SK, Glatt BS, Conant EF. Autologous fat grafting to the reconstructed breast: The management of acquired contour deformities. Plast Reconstr Surg 2009; 124:409-18.
46. Karacalar A, Orak I, Kaplan S et al. No-touch technique for autologous fat harvesting. Aesthetic Plast Surg 2004;28:158e64.
47. Del Vecchio DA, Bucky LP. Breast augmentation using preexpansion and autologous fat transplantation: A clinical radiographic study. Plast Reconstr Surg 2011; 127:2441-50.
48. Coleman SR, Saboeiro AP. Fat grafting to the breast revisited: Safety and efficacy. Plast Reconstr Surg 2007; 119:775-85.
49. Delay E, Garson S, Tousson G. Fat injection to the breast: Technique, results, and indications based on 880 procedures over 10 years. Aesthet Surg J 2009; 29:360-76.
50. Neuhof H, Hirshfeld S. The Transplantation of Tissues. New York: D. Appleton, 1923. p1–297.
51. Cervelli V, Gentile P, Scioli MG et al. Application of platelet-rich plasma in plastic surgery: Clinical and in vitro evaluation. Tissue Eng: Part C Methods 2009; 15:625-34.
52. Mizuno H, Hyakusoku H. Fat grafting to the breast and adipose-derived stem cells: Recent scientific consensus and controversy. Aesthet Surg J 2010; 30:381-7.
53. Kwak JY, Lee SH, Park HL. Sonographic findings in complications of cosmetic breast augmentation with autologous fat obtained by liposuction. J Clin Ultrasound 2004; 32:299-301.
54. Carpaneda CA, Ribeiro MT. Percentage of graft viability versus injected volume in adipose autotransplants. Aesthet Plast Surg 1994; 18:17-9.
55. Sidman RL. The direct effect of insulin on organ cultures of brown fat. Anat Rec 1956; 124:723-739.
56. Matsumoto D, Sato K, Gonda K et al. Cell-assisted lipotransfer: Supportive use of human adipose-derived cells for soft tissue augmentation with lipoinjection. Tissue Eng 2006; 12:3375–82.
57. Moseley TA, Zhu M, Hedrick MH. Adipose-derived stem and progenitor cells as fillers in plastic and reconstructive surgery. Plast Reconstr Surg 2006; 118(Suppl):121S–128S.
58. Zuk PA, Zhu M, Ashjian P et al. Human adipose tissue is a source of multipotent stem cells. Mol Biol Cell 2002; 13:4279-95.
59. Zuk PA, Zhu M, Mizuno H et al. Multilineage cells from human adipose tissue: implications for cell-based therapies. Tissue Eng 2001; 7:211-28.
60. Eppley BL, Pietrzak WS, Blanton M. Platelet-rich plasma: A review of biology and applications in plastic surgery. Plast Reconstr Surg 2006; 118:147e-157e.
61. Cervelli V, Palla L, Pascali M et al. Autologous platelet-rich plasma mixed with purified fat graft in aesthetic plastic surgery. Aesthet Plast Surg 2009; 33:716–21.
62. Chaput B, Chavoin JP, Crouzet C et al. Macrolane is no longer allowed in aesthetic breast augmentation in France. Will this decision extend to the rest of the world? J Plast Reconstr Aesthet Surg 2012; 65:527-8.
63. Chaput B, Chavoin JP, Crouzet C et al. Reply to discussion: Macrolane is no longer allowed in aesthetic breast augmentation in France. Will this decision extend to the rest of the world? J Plast Reconstr Aesthet Surg 2012; 65:529.
64. Khouri RK, Schlenz I et al. Nonsurgical breast enlargement using an external soft-tissue expansion system. Plast Reconstr Surg 2000; 105:2500-12.
65. Schlenz I, Kaider A. The Brava external tissue expander: Is breast enlargement without surgery a reality? Plast Reconstr Surg 2007; 120:1680-9.
66. Khouri RK, Eisenmann-Klein M, Cardoso E et al. Brava® and autologous fat transfer is a safe and effective breast augmentation alternative: Results of a six-year, eighty-one patients prospective multicenter study. Plast Reconstr Surg 2012 Jan 18. [Epub ahead of print]
67. Rietjens M, De Lorenzi F, Rossetto F. Safety of fat grafting in secondary breast reconstruction after cancer. J Plast Reconstr Aesthet Surg 2011; 64:477-84.
68. Petit JY, Botteri E, Lohsiriwat V et al. Locoregional recurrence risk after lipofilling in breast cancer patients. Ann Oncol 2012; 23:582-2.
69. Pearl RA, Leedham SJ, Pacifico MD. The safety of autologous fat transfer in breast cancer: Lessons from stem cell biology. J Plast Reconstr Aesthet Surg 2012; 65:283-8.
70. Zheng DN, Li QF, Lei H et al. Autologous fat grafting to the breast for cosmetic enhancement: Experience in 66 patients with long-term follow up. J Plast Reconstr Aesthet Surg 2008; 61:792–798.
71. Carvajal J, Patino JH. Mammographic findings after breast augmentation with autologous fat injection. Aesthet Surg J 2008; 28:153–162.
72. Mu DL, Luan J, Mu L et al. Breast augmentation by autologous fat injection grafting: management and clinical analysis of complications. Ann Plast Surg 2009; 63:124–127.
73. Veber M, Tourasse C, Toussoun G et al. Radiographic findings after breast augmentation by autologous fat transfer. Plast Reconstr Surg 2011; 127:1289-99.
74. Kneeshaw PJ, Lowry M, Manton D et al. Differentiation of benign from malignant breast disease associated with screening detected microcalcifications using dynamic contrast enhanced magnetic resonance imaging. Breast 2006; 15:29-38.
75. Chala LF, De Barros N, De Camargo Moraes P et al. Fat necrosis of the breast: Mammographic, sonographic, computed tomography, and magnetic resonance imaging findings. Curr Probl Diagn Radiol 2004; 33:106-26.
76. Jiang Y, Nishikawa RM, Schmidt RA et al. Comparison of independent double readings and computer-aided diagnosis (CAD) for the diagnosis of breast calcifications. Acad Radiol 2006; 13:84-94.
77. Danikas D, Theodorou SJ, Kokkalis G et al. Mammographic findings following reduction mammaplasty. Aesthet Plast Surg 2001; 25:283-5.
78. Kim SM, and Park JM. Mammographic and ultrasonographic features after autogenous myocutaneous flap reconstruction mammaplasty. J. Ultrasound Med 2004; 23:275-82.
79. Rosing JH, Wong G, Wong MS et al. Autologous fat grafting for primary breast augmentation: A systematic review. Aesthet Plast Surg 2011; 35:882–90.

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Injectable Soft Tissue Fillers

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Introduction

Injectable soft tissue fillers are used for various cosmetic and therapeutic indications. There have been a variety of fillers in the market over the years, including biologic products (hyaluronic acid, collagen, and dermal matrix), synthetic materials (silicone, polymethylmethacrylate microspheres, calcium hydroxyapatite, and poly-L-lactic acid), and viable autologous fat (Table 1 and Table 2). However, the search for an ideal filler continues because there is no single filler currently available that meets all the expectations of the physician (Box 1). With an increasing number of filler materials flooding the market, any clinician practising soft tissue augmentation should possess a thorough knowledge of the filler materials, including their modes of action, techniques of injection, limitations, advantages and disadvantages.

Table 1. Examples of biological fillers approved by the Food and Drug Administration (FDA) in the United States

FDA-approved biological fillers	Type
AlloDerm	Human dermal matrix
Zyderm / Zyplast	Collagen (bovine)
CosmoDerm / CosmoPlast	Collagen (human-based)
Restylane / Perlane	Hyaluronic acid (bacteria)
Juvederm	Hyaluronic acid (bacteria)

Table 2. Examples of synthetic fillers approved by the Food and Drug Administration (FDA) in the United States

FDA-approved synthetic fillers	Type
ArteFill	Polymethylmethacrylate (PMMA)
Radiesse	Calscium hydroxyapatite
Sculptra	Poly-L—lactic acid (PLLA)

Box 1 List of characteristics of an ideal filler substance

Material:	Administration:
• Non toxic • Non-allergenic • Non-carcinogenic / non-teratogenic • Biocompatible • Durable • Reversible • Produces positive, natural, discernible change • Minimal downtime / adverse sequelae • Reproducible result (permanence, bulk, and behavior) • Performs well as a person ages • Undetectable	• Painless • Outpatient • Easy to use • Large amount available • Easy storage

(I) Cosmetic Applications

As part of the ageing process, the collagen, hyaluronic acid and elasticity in skin decreases, causing wrinkles and a loss of facial fullness and volume. These changes occur most commonly around the eyes, mouth, cheeks, jaw line, brows and around the nose.[1,2]

Soft tissue fillers can be used to restore the youth appearance through the replacement of tissue volume lost and the filling and smoothing away of coarse wrinkles.[3,4,5] While the botulinum toxin reduces the mimetic effect on wrinkles and folds, the dermal fillers function by promoting support for the facial structures. There is a synergic effect when used concomitantly by prolonging the effects of the other.[6]

Examples of age-related features that may be treated with soft tissue fillers include:

A. Upper face

1. Glabellar lines
Primary treatment involves careful use of botulinum toxin to address the hypertrophy of the bilateral corrugator supercilli that depress the medial brow. For patients in whom there remain deeply imprinted vertical lines despite appropriate muscular immobility, fillers are an appropriate adding up.[7]

2. Horizontal forehead lines
These lines are produced eventually by the repetitive elevation of the brow. Similar to glabellar lines, placement of soft tissue fillers into the deep horizontal forehead lines can reduce their appearance.

3. Peri-ocular rhytids
Crow's feet are lines that radiate form the lateral orbital canthus; dynamic rhytids should be addressed with botulinum toxin and fillers serve well as an appendage. However, the periorbital skin is prettily thin with a rich vascular supply that makes filler treatment very unforgiving. There can frequently be the risk of visible product and significant post-treatment purpura. Ideally, the smallest bore needle possible should be used and in a very superficial plane. Minimal force should be applied to the plunger with serial injections to fill the rhytids.[8,9]

4. Temporal fossa wasting
Volume replacement with soft tissue fillers can minimise the appearance of age-related concavities in the temporal area.

B. Mid face

1. Nasojugal crease (tear trough depression)

These are pronounced depressions that occur between the rim of the orbital bone and the nasal sidewall due to the relaxation of suspensory ligaments of the eye and the descent of the malar fat pad. This can be difficult to correct surgically. Given the tight anatomy of this space, the use of a limited product volume is recommended. In addition, placement is best under the orbicularis oculi muscle because too superficial placement of the material can yield a bluish tint and is best avoided by a proper depth of the placement. During injections, it is important to use the non-dominant hand to guard the globe at all times and have the patient leaning the head on something firm.

2. Cheeks

Atrophy of the zygoma as well as the descent and wasting of the mid-facial fat contribute to loss of the heart-shaped contour that is characteristic of the young female face. Injection of soft tissue fillers into the malar area increases anterior projection of the cheek and diminishes the appearance of nasolabial folds, leading to a more youthful appearance.[10]

C. Lower face

1. Nasolabial folds

These are wrinkles that extend from the angles of the nose to the corners of the upper lip and are the most common sites treated with soft tissue fillers. The goal of the treatment is to correct volume deficits in the deep dermis. Effacing the nasolabial fold involves injecting with a needle at a depth of 1-2mm depending on the depth of the rhytid. Injections should involve injecting the entire expanse of the nasolabial crease to the nasal ala including the mildly depressed triangle just immediately lateral to the ala. Anatomically, the facial vein and artery traverse this triangle; inadvertent intravascular placement can yield tissue necrosis.[11]

2. Oral / peri-oral region

Vertical peri-oral wrinkles and mouth frown can be corrected with soft tissue fillers; lip augmentation can also be performed with these agents.[12,13,14]

3. Chin

Melomental folds (marionette lines) and horizontal creases in the chin are amenable to treatment. Fillers have also been used for chin and mandibular augmentation.

D. Non-facial sites

1. Hand rejuvenation

Soft tissue augmentation can camouflage the skin laxity, wrinkling, and prominence of bone that characterise the appearance of the aged hand.[15]

2. Neck and chest

Soft tissue fillers can ameliorate signs of flaccidity, atrophy, and wrinkling in the neck and pre-sternal chest.[16]

In addition to the indications described above, soft tissue fillers may also be used to improve the facial profile that is unrelated to age. Nose remodelling with soft tissue fillers are minimally invasive alternatives to traditional rhinoplasty for patients who wish to avoid surgery. The tip, bridge and root of the nose can all be projected or raised.[17,18]

(II) Therapeutic Applications

Soft tissue fillers play an important role in the correction of defects that result from medical disorders, trauma, or surgery.

A. HIV-associated lipodystrophy

Human immunodeficiency virus (HIV)-associated facial lipodystrophy is the most extensively studied therapeutic indication for injectable soft tissue fillers. Patients present with facial lipodystrophy, characterised by an excessively thin appearance in the cheeks, bitemporal wasting, and deep nasolabial folds. These features cause significant stigma and psychological burden on affected individuals. Treatment has been associated with an improved sense of well-being and a high level of patient satisfaction.[19,20]

B. Scarring

Facial scars, particularly the pitted "ice-pick" scars that often result from acne can be difficult to treat. Fillers can level the scars with the surrounding skin by removing any depressed, shadowy area. Injectable fillers have also been used to improve depressed scars that result from the treatment of skin cancer, trauma, or other causes.[21,22,23]

C. Facial asymmetry and soft tissue defects

Facial asymmetry may be congenital or acquired (surgical or traumatic), and can result from bony or soft tissue abnormalities. Soft tissue fillers can be used to restore symmetry. Patients with trauma-induced lipoatrophy, hemifacial atrophy (Parry-Romberg syndrome), and linear scleroderma have benefited from treatment with these agents.[24] Examples of other defects that have been corrected with soft tissue fillers include mandibular prognathia, surgical or traumatic skull defects, and residual cosmetic defects following cleft palate surgery.

D. Other

Soft tissue fillers are utilised for medical purposes in non-facial sites. Examples include nipple contouring and improvement of chest wall defects after mastectomy and breast reconstruction.[25]

(III) Pre-Operative Planning

A. Patient evaluation

Treatment with a soft tissue filler should begin with an assessment that determines whether the patient is an appropriate candidate for therapy and to aid in the selection of the proper filling agent and injection technique.

The assessment should include history of prior cosmetic procedures, patient's motivations for a given cosmetic procedure, documentation of the age-related changes such as tissue atrophy and actinic changes, and any specific contraindications to injection. The absolute contraindications include infection at or near the

site of injection, and hypersensitivity to the product components. Besides, the safety of these agents in pregnancy and lactation has not been established and should be made aware to the patient in the discussion before treatment.

Counselling with regard to expectations and limitation of the product used is essential. The psychosocial background is part of the evaluation. Patients identified as having unrealistic expectations at the initial patient consultation should be approached with caution. Similarly a patient who has underwent multiple, frequent procedures with minimal satisfaction or is doctor shopping should be handled with care.

The patients are examined in an upright position. Asking them to identify problematic areas with the use of a mirror will assist to define their perceived specific concerns with the clinician. In some cases, patients should be informed that treatment of additional locations or the inclusion of adjunctive cosmetic procedures is necessary to achieve the best results.

B. Medications and drug interaction

Current medications that will impair haemostasis (acetylsalicylic acid, non-steroidal anti-inflammatory agents, excessive alcohol, vitamin E supplementation, and other dietary supplements that may have an anti-coagulating effect) should be avoided for one week prior to treatment, provided these agents can be discontinued safely. Smoking should be ceased because it will increase the risk of vascular compromise and contributes to decreased longevity of the injected product.

C. Informed consent and photography

Realistic expectations for treatment outcomes must be thoroughly discussed with patients. The risks associated with the use of the selected filler should be carefully reviewed. The exact procedure, indications for therapy, treatment alternatives, and complication profile must be delineated. Informed consent is an important piece of document that confirms the patient's understanding of the potential adverse effects and expected treatment outcome. Pre- and post- treatment photography is useful for clinical follow-up and for documentation of pre-existing asymmetries or defects.

D. Filler selection

Soft tissue filler properties vary widely, and product-specific clinician training is required. To achieve the desirable outcome, the following factors are important considerations:

- Filler characteristics (Table 3);
- Clinician's expertise;
- Amount of filler product to be injected;
- Particular nature of the defect to be treated.

In general, temporary fillers offer the advantage of reversibility in the case of undesirable placement, but require regular maintenance to sustain the desired effect. Permanent fillers should only be used in carefully selected patients and by experienced clinicians. For example, its use is not recommended for lip augmentation due to the increased risk of implant visibility, lumpiness and the risk of granuloma formation.

Improper use can lead to an unacceptably high risk for adverse effects. Clinicians who have not been trained in the use of a particular soft tissue filler should avoid injecting those agents. It is important to understand that folds and wrinkles come in various depths, thus treatment must be tailored according to the individual patient. More superficial rhytids respond best to intradermal treatment. Deeper rhytids typically have a subcutaneous component, with or without a muscular element, and are best approached from the subcutaneous space. Similarly an appropriate volume of the selected filler material is critical. Under-correction in order to decrease patient costs will only yield an unsatisfied patient and is thus best avoided.

Table 3. Filler characteristics

Filler	Category	Composition	Viscosity*	Level of placement†	Advantages	Disadvantages and complications
Restylane / Juvederm	Biologic	HA (bacterially derived)	++	Superficial to deep dermis	• Long-lasting • Can be used in deep tissue and along bone • Minimal reactions • No skin test	• More swelling – up to 3 to 5 days
ArteFill	Synthetic / biologic	Polymethylmethacrylate (PMMA)beads covered with bovine collagen	+++	Deep dermis or subcutaneous	• Long-lasting in deep folds and acne scars	• Bumps, which may require treatment with steroids or surgery to remove • Risk of granuloma • Collagen reactivity • Requires skin test
Radiesse	Synthetic	Calcium hydroxyapatite	+++	Deep dermis or subcutaneous	• Long lasting • Can be used in deep tissue and along bone • Minimal reactions • No skin test	• More swelling – up to 3 to 5 days • Irregularities (technically dependent)
Sculptra	Synthetic	Poly-L-lactic acid (PLLA)	++	Deep dermis or subcutaneous	• Long lasting • Can be used in deep tissue and along bone • Minimal reactions • No skin test	• More swelling – up to 3 to 5 days • Irregularities (technically dependent) • Inflammatory reactions • Multiple treatments required

HA, Hyaluronic acid.
*Viscosity: + least thickness, easiest/best; ++ in between; +++ most thickness, more difficult flow
†Level of placement is also dependent on amount / type of desired correction.

(IV) Technique

A. Anaesthesia and skin preparation

Skin cooling with ice packs is sufficient in many circumstances for correction of wrinkles. If the patient requires anaesthesia a topical anaesthetic cream is applied to the area under occlusion at least one hour prior to the treatment. Nowadays a number of products are formulated with lidocaine, which has been shown to reduce pain during and after the injections.[26] Pain may also be reduced through the use of the smallest suitable needle, slow infiltration, minimisation of the number of needle punctures, and injecting through areas of previously anaesthetised skin.

The area to be treated is cleaned with a suitable antiseptic solution. The needle supplied with the syringe is fixed to the syringe and the product is injected into the skin.

B. Injection techniques

Where to inject is the other key to successful treatment. For best results the products should be injected within the recommended tissue depth, for example., restylane in the mid-dermis. Also injections that are placed too superficially may result in palpable of visible filler implants, and injections that are placed too deeply may not provide the desired effect. In general, coarse defects require more viscous fillers and deeper placement than less prominent lines or defects.

There are four techniques commonly used for the injection of soft tissue fillers:

1. Linear threading

The full length of the needle is inserted in the middle of the wrinkle and the substance is injected in a linear fashion as the needle is withdrawn (retrograde) or inserted (antegrade) so that the threads of the gel are placed lengthwise in the wrinkle. Threading is commonly used for lip augmentation or the treatment of nasolabial folds.

2. Serial punctures

Multiple injections are placed serially along the length of the treated wrinkle / fold. It is made closely together, so that it merges into a smooth continuous line which lifts the wrinkle. Injections are medial to the fold being addressed. Injected material is then massaged for even distribution. The serial punctures? method is often used for lip augmentation or for superficial wrinkles.

3. Fanning

The needle is inserted at the periphery of the area to be treated as when using the linear threading technique. After injecting one line the direction of the needle is changed and is followed by multiple cycles of redirection of the needle and retrograde injection without complete withdrawal from the skin. Fanning is used for diffuse volume filling to correct larger defects.

4. Cross-hatching

The needle is inserted at the periphery of the area intended to be augmented and injections are made? using the linear threading technique. The needle is withdrawn from the skin and inserted 5 to 10 mm adjacent to the first puncture site and injected in the same way. This procedure can then be repeated at right angles to the original lines. Similar to fanning, cross-hatching is typically used in the treatment of large areas.

C. Post-procedural care

The injected area should avoid massaging for 6 hours in an attempt to reduce the risk for unintended migration of the filler. Touch up treatments can be given after 2 to 4 weeks if necessary.

(V) Adverse Effects

The spectrum of adverse reactions after treatment with injectable fillers could be injection related or substance realted (Table 4).

Table 4. Adverse effects of injectable filler

Common	Rare
Erythema	Local hypersensitivity
Swelling	Formation of granulomas
Pain / Tenderness	Abscess development
Bruising	Necrosis and sloughing
Acneiform eruption	Reactivation of latent HSV
	Acneiform eruption

Summary

Multiple soft tissue fillers are available for cosmetic and therapeutic indications., They provide a practical and instant solution relatively free of side effects for patients without having to undergo major surgical procedures. While the majority of patients enjoy a high satisfaction when strict patient selection and filler selection is followed, adequate clinician training in the use of these agents is important to avoid any adverse events.

References

1. Zimbler MS, Kokoska MS, Thomas JR. Anatomy and pathophysiology of facial aging. Facial Plast Surg Clin North Am. 2001 May;9(2):179-187.
2. Shaw RB Jr, Katzel EB, Koltz PF, et al. Aging of the mandible and its aesthetic implications. Plast Reconstr Surg 2010; 125:332-342.
3. Sánchez-Carpintero I, Candelas D, and Ruiz-Rodríguez R. Dermal Fillers: Types, Indications, and Complications. Actas Dermosifiliogr. 2010;101(5):381–393.
4. Greco TM, Antunes MB, Yellin SA Injectable fillers for volume replacement in the aging face. Facial Plast Surg. 2012 Feb;28(1):8-20.
5. Matarasso SL, Carruthers JD, Jewell ML, Restylane Consensus Group. Consensus recommendations for soft-tissue augmentation with nonanimal stabilized hyaluronic acid (Restylane). Plast Reconstr Surg 2006 Mar;117(3 S):3S-34S; discussion 35S-43S.
6. Carruthers J, Carruthers A. A prospective, randomized, parallel group study analyzing the effect of BTX-A (Botox) and nonanimal sourced hyaluronic acid (NASHA, Restylane) in combination compared with NASHA (Restylane) alone in severe glabellar rhytides in adult female subjects: treatment of severe glabellar rhytides with a hyaluronic acid derivative compared with the derivative and BTX-A. Dermatol Surg 2003; 29:802-809.
7. Patel MP, Talmor M, Nolan WB. Botox and collagen for glabellar furrows: advantages of combination therapy. Ann Plast Surg 2004; 52:442-447.
8. Kane MA. Treatment of tear trough deformity and lower lid bowing with injectable hyaluronic acid. Aesthetic Plast Surg 2005; 29:363-367.
9. Lambros VS. Hyaluronic acid injections for correction of tear trough deformity. Plast Reconstr Surg. 2007;120(Suppl):74-80.
10. Lowe NJ, Grover R. Injectable hyaluronic acid implant for malar and mental enhancement. Dermatol Surg 2006;32(7):881-885; Discussion 885.
11. Lupo MP, Smith SR, Thomas JA, et al. Effectiveness of Juvéderm Ultra Plus dermal filler in the treatment of severe nasolabial folds. Plast Reconstr Surg 2008; 121:289-297.

12. De Boulle K, Swinberghe S, Engman M, Shoshani D. Lip augmentation and contour correction with a ribose cross-linked collagen dermal filler. J Drugs Dermatol 2009; 8:1-8.
13. Klein AW. IN search of the perfect lip: 2005. Dermatol Surg 2005;31(11 Pt 2):1599-1603.
14. Graivier MH, Bass LS, Busso M, et al. Calcium hydroxylapatite (Radiesse) for correction of the mid- and lower face: consensus recommendations. Plast Reconstr Surg 2007; 120:55S-66S.
15. Fabi SG, Goldman MP. Hand rejuvenation: a review and our experience. Dermatol Surg. 2012 Jul;38(7 Pt 2):1112-1127.
16. Mazzuco R, Hexsel D. Poly-L-lactic acid for neck and chest rejuvenation. Dermatol Surg 2009; 35:1228-1237.
17. Rokhsar C, Ciocon DH. Nonsurgical rhinoplasty: an evaluation of injectable calcium hydroxylapatite filler for nasal contouring. Dermatol Surg 2008; 34:944-946.
18. Kim P, Ahn JT. Structured nonsurgical Asian rhinoplasty. Aesthetic Plast Surg. 2012 Jun;36(3):698-703.
19. Jones D. HIV facial lipoatrophy: Causes and treatment options. Dermatol Surg 2005;31(11 Pt 2): 1519-1529; Discussion 1529.
20. Carruthers A, Carruthers J. Evaluation of injectable calcium hydroxylapatite for the treatment of facial lipoatrophy associated with human immunodeficiency virus. Dermatol Surg 2008; 34:1486-1499.
21. Beer K. A single-center, open-label study on the use of injectable poly-L-lactic acid for the treatment of moderate to severe scarring from acne or varicella. Dermatol Surg 2007; 33 Suppl 2:S159-167.
22. Kasper DA, Cohen JL, Saxena A, Morganroth GS. Fillers for postsurgical depressed scars after skin cancer reconstruction. J Drugs Dermatol 2008; 7:486-487.
23. Stupak HD, Moulthrop TH, Wheatley P, et al. Calcium hydroxylapatite gel (Radiesse) injection for the correction of post rhinoplasty contour deficiencies and asymmetries. Arch Facial Plast Surg 2007; 9:130-136.
24. Onesti MG, Troccola A, Scuderi N. Volumetric correction using poly-L-lactic acid in facial asymmetry: Parry Romberg syndrome and scleroderma. Dermatol Surg 2009; 35:1368-1375.
25. Schulman MR, Lipper J, Skolnik RA. Correction of chest wall deformity after implant-based breast reconstruction using poly-L-lactic acid (Sculptra). Breast J 2008; 14:92-96.
26. Brandt F, Bank D, Cross SL, Weiss R. A lidocaine-containing formulation of large-gel particle hyaluronic acid alleviates pain. Dermatol Surg 2010; 36 Suppl 3:1876-1885.

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References:

1. Schlesinger N. Curr Rheumatol Rep 2010; 12(2):130-134. 2. Takano Y et al. Life Sci 2005; 76:1835-1847.
3. Becker MA et al. N Engl J Med 2005; 353(23):2450-2461.

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Plastic Surgery and Lawsuits

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Plastic Surgery is a branch of medicine which is of super high risk and more so for cosmetic or aesthetic practice. Such is the classification of its annual subscription rates for membership by the Medical Protection Society[1]. The propensity of the practice of the specialty to attract lawsuits as a necessary implication is obvious.

The unique feature of plastic surgery is that often there is not a single way to accomplish a reconstruction but alternative options with pros and cons under the circumstances of a particular case. Aesthetic Surgery, in particular, treats not the sick or physically injured. The purpose is to satisfy expectations and results are judged subjectively.

A medical practitioner, like any ordinary individual, is susceptible to criminal and civil sanctions by the law. Successful civil claims via the courts may result in an order of compensation. Because of the profession's position and the public's expectations, there are further impositions as to ethical conduct (專業操守) which is regulated within the profession itself by the Hong Kong Medical Council ("HKMC"). Various disciplinary actions may be taken against medical practitioners found guilty.

The relevant law thus comes from the statutes, court judgments, the Code of Professional Conduct ("Code") and judgements of the HKMC. Lawsuits are not peculiar to plastic surgeons and all legal provisions and disciplinary regulations and judgements are equally applicable to plastic surgery, though certain areas of risk deserve highlighting as they are of particular relevance.

Criminal Convictions

Offences punishable by imprisonment are of concern. A common example is the failure to keep a register of Dangerous Drugs in the office. Other examples are serious traffic offences, fraudulent issue of certificates, improper insurance claims and sexual relationships with patients. Under section 27.1 of the Code, a doctor convicted of any offence punishable by imprisonment is liable to HKMC disciplinary proceedings and section 29.1 mandates reporting within 28 days of conviction, failure of which being in itself a ground for disciplinary action.

Civil Claims and Negligence (疏忽)

Negligence means falling short of the commonly accepted standard of care thereby resulting in damages. This is assessed as whether a practitioner has been acting in accordance with a practice accepted as proper by a responsible body of medical men skilled in the art, *Bolam v Friern Barnet Hospital Management Committee* (1957) 2 All ER 118. The court had to satisfy itself that the medical experts' opinions are reasonable, in that they had weighed up all the risks and benefits, and had a logical basis for their conclusion, *Bolitho v City & Hackney Health Authority* (1997) 4 All ER 771. The standard is thus often dictated by expert witnesses.

The Medical Council and Professional Conduct

The HKMC looks at offences punishable by imprisonment and "misconduct in a professional respect". The definition of the latter is 'conduct that has fallen short of the standard expected'. This is an objective standard from the perspective of how the rest of the profession and the public would think, not what an accused doctor would subjectively regard. Thus, someone may insist that he thinks his conduct as not being dishonest but that is not the issue; it is whether others would in the circumstances think whether he is dishonest, *R v Ghosh* [1982] QB 1053. Often such a defendant would also know that others would consider his conduct dishonest as well.

The Code is maintained by the HKMC and is updated at intervals. It outlines the principles of expected ethical standards and the provisions are to be interpreted in a purposive approach. The implication is that the spirit behind the written words must be taken into account while the text is not exhaustive.

The areas of the latest version of the Code that bear special relevance to plastic surgery include:

Association with non-professionals

Section 20 stipulates that a doctor should not associate himself with a non-qualified person in providing patient treatment. Under section 13.2, a doctor who is an owner, a director or an employee of an organisation which provides medical services should dissociate himself from such if it provides substandard services, affects independent professional judgement or infringes patients' rights.

Rebate and kickbacks

Section 14 prohibits improper financial transactions for referrals from health centres and beauty centres. The potential to infringe section 9 of the Prevention of Bribery Ordinance, Cap 201, must also be noted. As a part of a medical practitioner's fiduciary duty imposed

by common law, one should not allow financial or other gains over patients' interests. Improper business arrangements with beauty salons and middle men must also be guarded.

Marketing, advertising and practice promotion

The American Marketing Association defines marketing as processes for managing customer relationships in ways that benefit an organisation and its stakeholders. Practice promotion of doctors' medical services as a commercial activity is prohibited under section 5 because of the likelihood to undermine public trust in the profession and to diminish the standard of care. Practice promotion is defined under section 5.2.2.1 as publicity for promoting professional services, practice or one's group, locally or elsewhere, by oneself or others or with one's forbearance. Promotion leaflets and booklets are similarly not advisable for distribution to the public. Practice promotion has been a hot issue in recent years. The HKMC issued a warning notice to all medical practitioners in June 2006 of the expectation for removal from the General Register upon conviction and repeated the same in December 2008.

Dr Kwong Kwok-hay v The Medical Council of Hong Kong [2007] CACV 373/2006 was a successful challenge to the publicity restrictions based on the human rights approach in terms of "patients' right to know" and "freedom of expression". It is, however, not the case that doctors are now free to advertise[2]. The new introductions of the HKMC now allow the provision of certain basic practice information (photo, services, fees, dialects, affiliated hospitals) in directories, information about medical services, and incidental promotion in relation to health education. The court stated that it is on the HKMC that the burden of justifying restrictions lies. The full impact of this comment is still to be seen.

Websites are becoming commonplace and it is also important to note that the information allowed on websites is similarly restricted. An illustrative example is MC 09/055 (HKMC website case reference number) in which the respondent doctor provided true facts of his long experience, past appointments of senior positions, expertise, recognition by authorities, superiority, and unquotable qualifications. HKMC found the respondent guilty of publication of unpermitted information, claiming superiority, and canvassing patients.

Solicitation of business and canvassing

Section 6.2 imposes a duty upon a doctor to take reasonable steps to ensure that published or broadcast materials do not solicit business or seek to achieve commercial promotion of medical and health related products or services. Section 6.3 forbids dissemination of information mentioning unique or special skills or solutions to health problems. Section 18.2 states that disciplinary action will be taken where an advertisement in the name of an organisation is in effect promotion of a doctor's practice. Due diligence is called for in acquainting oneself with the nature and content of the organisation's advertising, with discontinuation of the relationship with an organisation advertising in contravention of the principles and rules. Professional fees or contact information are not allowed to be published in an organisation's promotional materials (section 18.3). A service information notice bearing fee schedules and medical services provided, however, may be displayed at the exterior of one's office.

The duty is thus on the medical practitioner to prevent any associated organisation to breach the Code. Acquiescence in the face of a breach could be professional misconduct. Conduct exhibiting due diligence in handling any such breach may well be written disapproval to the directors and dissociation from the relationship in the event of persistent breach. Common patterns of such breach are advertisements of superiority in establishment or treatment results, advertising commercially under the cloak of health education, and offering discount vouchers.

Gratitude

Letters of gratitude or announcements of appreciation from grateful patients or related persons identifying the doctor concerned should not be published in the media or made available to members of the public (section 5.2.3.3). Again, a doctor should take all practical steps to discourage all such publications. Thus, newspaper advertisements with patient gratitude quotes or webpage contents with such are not allowed.

Consent to medical treatment

Consent issues are of particular relevance to plastic surgery because of its very nature as mentioned at the beginning of this article. A valid fully informed consent has 3 elements: sufficiency of information, a patient with an intact mind, and the patient reaching his decision freely without coercion. Information provided should include an explanation of the condition, the intended treatment, alternative options, risks, and the option of no treatment and consequences. The explanation given has to be understood and the patient must be allowed to have queries answered. A negligence action can stand if a patient suffering damages could prove that he would not have agreed to the treatment had a more proper explanation been given in obtaining consent, *Chester v Afshar* (2004) UKHL 41.

The message is to always manage properly the patients' expectations, not to give unrealistic guarantees, and select the proper patient for a particular procedure. It may be prudent to emphasise the cosmetic nature in an aesthetic undertaking, to stress the important complications, to convey uncertainties, to document & detail the substance of all explanations given, to get witnesses along and to give sufficient time for the patient to think over.

Patient confidentiality

Confidentiality issues are under section 1 and medical information should not be disclosed to a third party without the patient's prior consent except where necessary to avoid serious harm to the patient or others, or when required by law. It is certainly unprofessional to release to friends or colleagues your celebrity client without his consent in order to boost your success and popularity.

Judgements of the Hong Kong Medical Council

Disciplinary judgements of the HKMC have been

posted on the Council's website for orders which would be published in the Hong Kong SAR Gazette[3] since July 2008. What can we learn from these judgements?

Incidence of published judgements

The numbers of published judgements are shown in Table 1.

Table 1. No. of judgements according to year

Year	No of judgements
2008 (from July)	6
2009	12
2010	24
2011	16
2012 (to June)	4

Inquiry rates of complaints received by HKMC

A complaint filed goes through 3 stages before reaching an inquiry: screening by the Chairman of the Preliminary Investigation Committee ("PIC"), deliberation by the PIC, and then an inquiry by the Council. Not all complete the stages as many are frivolous or without sufficient evidence.

Table 2. Percentages of cases proceeding to inquiry by HKMC[4]

Year	Chairman → inquiry	Chairman → PIC	PIC → inquiry
2007	0	13	34.3
2008	0	12	17.9
2009	1.2	12	39.8
2010	0.8	14.5	45.4

It is frequently advised that legal representation must be sought early on in the process. This is obvious from the figures because the chances of arresting a case is so much better before the PIC refers a case for the Council's inquiry, when conviction is almost guaranteed after having been considered worthy of pursuing by the PIC.

The offences

Disciplinary sanctions of the HKMC, as mentioned, are executed under 2 broad-brush categories of situations: misconduct of a professional nature, and conviction of an imprisonable offence. There were 49 judgements of the former nature and 13 of the latter type for the cases in Table 2. A number of judgements deserve attention by plastic surgeons.

In MC 8/469/4/E the respondent doctor performed mesotherapy using phosphatidylcholine, a non-registered drug in Hong Kong. The unapproved use of a drug also occurred in MC 16/466/4/E, here tiratricol (Qualicana) for the purpose of weight reduction. In MC 8/469/4/E, the Council stated that injection of any substance into the body is medical treatment and any product injected into the body is a pharmaceutical product. The possible development of this principle on the increasingly popular injectables and botulinum toxin treatment by non-doctors would be interesting.

There were many instances of doctors who have "instigated, sanctioned, acquiesced in or failed to take adequate steps to prevent" improper promotion of services or products in association with commercial organisations of health care or products. These have included Doctor's Choice (MC 09/186), Beauty Pro (MC 09/214), Be-A-Lady (MC 3285/4/E), The Skin Clinic (MC 1/2490/4/E), CosMedic Beautria (MC 2934/4/E), 新都醫療集團醫學美容中心 (MC 09/118), Femina Healthcare (MC 09/055) and others.

Claims of superiority were also seen as the cause of disciplinary action, as with the Healthmax Cancer Clinic Limited in MC 2/1014/4/E.

The issue of discount coupons was caught in MC 1/2490/4/E and in MC 1/1993/4/E. In the latter a free trial of laser hair removal and discount for skin care products to new customers were offered in the Sunday Life magazine. The perpetrator also used name cards with promotional remarks such as "no scar, blemish and pain" and "safe and quick".

The use of non-quotable qualifications was the issue in MC 5/1392/4/E and MC 6/1392/4/E, where the respondent doctor used, amongst others, on his name cards, 'FFMACCS (Australia)' and ' 澳洲醫學美容外科醫學院院士 '.

The disciplinary options

Under section 21 of the Medical Registration Ordinance Cap 161, the HKMC has the sentencing powers to impose the following penalties:

- removal from the General and/or Specialist Registers permanently (i.e. strike off) or for a specified period (i.e. suspension), with or without a suspended sentence
- reprimand (i.e. public warning)
- service of a warning letter (i.e. private warning)
- referral to its Health Committee for further deliberation (for physically unfit doctors)

Removal is not usually implemented before the expiry of 1 month after the date of service of the order, or, if an appeal is made to the Court of Appeal, before the appeal is finally determined. The HKMC, however, has the further power under section 21(1)(iva) to make its removal or reprimand orders take effect upon publication in the Gazette if it considers that it is necessary to do so for the protection of the public or in the best interest of the practitioner concerned. An example is the judgement in MC 2929/4/E and MC 1/2929/4/E, where the respondent had a prolonged history of improper sexual relationship with a patient and was considered posing such a danger to the public that immediate removal was considered necessary for the protection of the latter.

Mitigation factors

Sentencing takes into account of the gravity of the offence and the presence of mitigating factors. The judgements revealed that the mitigating factors usually taken into account include: a previous clear record, cooperation with investigation, conduct showing signs of remorse, patients' well-being not affected and Good Samaritan acts. Where any particular misconduct is undergoing investigation or inquiry, measures taken to prevent the recurrence of the event would give credit.

Appeals

There exists a review mechanism under section 21(4B)

of the Medical Registration Ordinance, Cap 161 for the HKMC, of its own initiative, to review any decision or order made and under subsection 4D, to affirm, vary or revoke any decision or order made. This power, however, has never been exercised by the HKMC[5].

Doctors feeling aggrieved by a HKMC judgement may apply to the Court of Appeal for leave to file an appeal provided that notice is made within 1 month of the service of the order. The appeal court may affirm, reverse, vary the order made by the HKMC, or it may remit the case back to the HKMC for a re-hearing under section 26, Medical Registration Ordinance Cap 161. A decision of the appeal court is final.

It is a common misconception that the appeal system is an automatic mechanism to permit a second time re-examination of a case. In the case of *Ng Mei Sin v HKMC* [1995] 1 HKC 242, the court emphasised that the HKMC is "uniquely qualified to assess … and a better qualified tribunal to deal with the professional implications of that conduct than this court". The traditional approach has been the Privy Council's decision in *Libman v GMC* [1972] AC 217 that "unless it can be shown that something was clearly wrong either (i) in the conduct of the trial, or (ii) in the legal principles applied, or (iii) unless it can be shown that the findings of the committee were sufficiently out of tune with the evidence", the appellate court would not interfere. With the emphasis on the protection of human rights, it appears that, as illustrated in *Dr. Lau Koon Leung v MCHK CACV* 250/2004, the court would continue to accord respect to the opinion of the professional tribunal on technical matters but the degree of deference will have to depend on the circumstances.

Litigations via the Court System

Most claims filed via the courts are settled before reaching the trial. In the year 2011, the MPS reported its worldwide figures of claims[6] handled with 44% successfully resisted and 54% settled. Only 2% remained to go to trial and of these, 64% were defended successfully. Details of cases going through this route therefore do not surface. The main lessons which could be learned from a study of the judgments are technical issues of the law which are of little concern to the plastic surgeon. The impact of the *Dr. Kwong Kwok Hay* case has been mentioned and the case has certainly opened up possibilities of challenges based on the human rights approach upon unjustifiable or disproportionate restrictions imposed by the HKMC. A case in point is *Dr. Lau Yuk Kong v MCHK HCAL* 4/2007 which post-dated the *Dr. Kwong Kwok Hay* case where the HKMC lost on grounds of *Wednesbury* unreasonableness (i.e. being manifestly unreasonable as in *Associated Provincial Pictures Houses Ltd v Wednesbury Corporation* [1948] 1 KB 223) although, the latter being filed as an application for judicial review, the court focused on the discretionary relief and declined to adjudicate on the human rights issue.

What about settled lawsuits?

As a lot of claims are settled and never actually reach the courts, it would be useful to look at what information could be generated from this subset of litigations. The difficulty is that data on settlements are often not available. A recent review published by the MPS[7] showed that plastic surgery stood out on prominence in a number of aspects. Firstly, plastics and aesthetics together accounted for almost one-fifth of all surgical claim settlements by specialty in numbers. Taking the proportion of such procedures in relation to the rest of the other surgical specialties, it can easily be appreciated that we are no doubt at a very high risk for claims. Another feature was that unsatisfactory cosmetic quality was exclusively under plastic and cosmetic procedures. Half of these were breast related and one-third facial procedures. This observation pinpoints the relevance of managing patients' expectations. The third finding was that "inappropriate surgery" was a more commonly occurring code than with other surgical specialties. Again, the variety of options inherent in our specialty under a given set of circumstances and the "not strictly necessary" feature of many aesthetic procedures easily explain why we are prone to accusations under this heading. The finding in turn brings along issues of consent, good communication and post-operative care.

How to avoid litigation?

It is well known that patients sue not because of undesirable results; they sue because they are angry. A poor doctor-patient relationship before the treatment often awaits an unexpected outcome to trigger a claim. Sincere and candid explanation after an unsatisfied result reduces and avoidance increases the risk of a claim. Disparagement of another medical practitioner is explicitly forbidden under section 19 of the Code. Hinting negatively at the treatment or treatment result of a previous doctor is unwise and may stimulate a desire to sue for compensation.

References

1. MPS Subscription rates Hong Kong (1 February 2012 – 31 January 2013). Available on the website: http://www.medicalprotection.org/Default.aspx?DN=ee1b9ac7-b76a-4cb3-8222-b5ae86b22139
2. Chang W. The impact of Dr. Kwong's case on publicity codes governing professionals. Hong Kong Lawyer 2008 May. Lexis-Nexus.
3. HKMC Judgements can be browsed on the website: http://www.mchk.org.hk/judgments.htm
4. Annual reports of the Hong Kong Medical Council 2007-2010.
5. HKMA News. The Hong Kong Medical Association. Council Section June 2012 page 7.
6. Statistics. Summary report and accounts for the year ending December 2011. Medical Protection Society Limited. Page 4.
7. Mackenzie P. Closing the loop: lessons from surgical cases. Casebook (Asian edition). Medical Protection Society 2012; 20:2-9.

Complications of Injection Facial Fillers: Avoidance, Diagnosis, and Management

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Overview

Volumising an ageing face with soft tissue injectable fillers is increasingly popular worldwide. Over 1.5 million soft tissue filler procedures were performed in the United States in 2007.

During current cosmetic consultations, a number of patients would often have already received different facial fillers. Plastic Surgeons unavoidably ought to understand the properties of the commonly available fillers and the body tissue responses to these fillers.

Despite the favourable safety profile of most fillers, complications and adverse events do occur and could be resulted from faulty injection techniques, product tissue responses and sensitivity, infection, and necrosis. Careful selection of patients, thorough understanding of the characteristics of injectable fillers and the anatomy of the area being treated, and an aesthetical responsible surgical plan should be emphasised to minimise unfavourable outcomes.[9]

Classifications of facial fillers

There are more than hundreds of dermal fillers on the market and the number is increasing everyday. These fillers could be classified by their origin in terms of production (synthetic, self or cadaveric, animal or bacterial), durability and degraded property (temporary, semi-permanent or permanent)[11], and tissue depth placement (dermal, subcutaneous, supra periosteal).

Common adverse events after Injection Facial Fillers

Appropriate patient selection and indications, good choice of fillers, and proper injection techniques are the most important factors for favourable results and happy patients.

Selection of patients

Patients are seeking procedures that would provide an immediate rejuvenation with the most dramatic results necessitating the least down-time. There are multiple ageing features that would trigger patients' demand for facial filler correction. The balance between an acceptable realistic expectation and those wishful magical results is critical to a safe and successful aesthetic practice.

The upper third of the face with forehead acne scar, temporal depression, glabellar frown lines, crow's feet, upper eyelid hollow, lower eyelid volume loss, nasojugal groove are candidates for injectable fillers. In the midface, acne scar, sinking malar eminence, cheek hollow, minor nasal defects, nasolabial fold, marionette smile line, restoration of smooth oval facial contour could be corrected by injection fillers. The lower third of the face having upper lip rhytides, effacement of lip margin, thin lip, uneven jawline, loss of chin definition and projection are also indications for filler correction.

An ethical surgical plan should be discussed thoroughly with the patients so as to explain the limitations of injection facial fillers and to avoid unrealistic expectation of outcomes.

Selection of appropriate fillers

There is no single magic filler for a complete rejuvenation of an ageing face. Each filler has its excellent effects and certain limitations. Familiarity of each family of fillers would optimise the clinical applications and help reduce potential complications.

Injectable collagens provide excellent solution to correct depressed acne scars and lips with very brief effects for 2-3 months. Fat transfer is an excellent filler at the nasolabial fold, cheek, and smile line. Fat transfer at the lip requires experience and skill to provide favourable results. Hyaluronic Acid products are highly versatile and work best at less mobile area lasting for up to 9 months or more providing correction at the lip, nasolabial fold, marionette lines and acne scar. Injectable collagen-stimulator poly-L-lactic acid (PLLA) is a medium term filler for augmentation of temporal hollow, tear trough defect, and pan-facial augmentation lasting up to 18-24 months but requires a series of treatments. Calcium hydroxylapatite (CaHA) is another medium term filler with effects lasting for more than 12 months. Correction of nasolabial fold, marionette lines, cheek hollow, acne scar, filler rhinoplasty, chin augmentation are indicated for CaHA fillers. Improper placement in filler rhinoplasty and migration of CaHA would form nodules especially around thin nasal skin and the lip.[1]

Injection site reaction

Injection site reaction is the most common adverse events associated with facial fillers injections.[10] Swelling, redness, tenderness, pain, bruising can occur at more than half of the injection sites in a randomised, double blind trial.[2] In general, these reactions are usually self-limiting, peak at 72 hours and subside within a week. Withdrawal of aspirin, NSAID, herbs & vitamin supplements (Vit E, ginger, ginseng, garlic, celery root, fish oil) one week prior to the procedure would help minimise swelling and bruises.

Injection technique-related adverse effects

Thorough understanding and mastering of different injection techniques is the prerequisite and fundamental factor in the successful administration of facial fillers. Choices of either sharp needle or blunt cannula, retrograde or push-ahead injection, serial puncture, fanning, linear threading, tunnelling or serial threading, cross-hatching, micro-droplet serial puncture technique, angle of injection, orientation of needle bevel, visibility of needle tract, depot injection are factors leading to proper placement of fillers at the most desirable area with the best expected results. However, certain injection techniques including fanning, rapid injection, rapid flow rates, and higher volume placement are associated with increased local adverse events.[3]

Injection necrosis is a very rare but alarming complication. Vascular injury, intravascular injection, compression, occlusion causing ischaemia and even necrosis, embolisation of injectant and blindness have been reported. Precautions should be exercised particularly at glabellar and periocular region, including avoidance of deep and perivascular injection, adherence to the practice of medial and superficial injection at this watershed area, aspiration prior to injection, avoidance of single bolus, staged-injection over one side at each session, and caution about deep injection of viscous fillers.

In case of ischaemia and pending necrosis, immediate application of warm pack, nitroglycerin paste, hyaluronidase for HA products, and occasionally using deep subcutaneous injection of low-molecular-weight heparin into affected areas have salvaged this unwanted serious complication.[4]

Complications of Hyaluronic Acids (HA) Fillers

There are hundreds of hyaluronic acid products emerging in the markets. Most FDA-approved HA products are of high safety profile. These HA products are metabolised into carbon dioxide and water, and eliminated through lymphatics and the liver. Adverse effects are mostly injection technique related including injection site erythema, swelling, pain and bruises that are transient and resolve within days. Itchiness, acne, herpes eruption, cellulitis, and scar have also been reported.

Hypersensitivity to HA product is very rare. Persistent nodules after HA fillers could be dissolved within 1-2 days by direct hyaluronidase injection. However, these nodules should be distinguished from delayed onset angry red bumps that might be caused by bacterial or mycobacterial infection.[5]

Filler injection training course including live patient demonstration and hands on instructions are highly recommended. HA products are usually targeted at the dermis or close to the dermal-subcutaneous junction. Too superficial injections would cause visible white, yellow, or blue nodules (Tyndall effect). In addition, HA products are appropriate for layering multiple injectants. Lip augmentation at the junction of wet and dry vermillion would cause vascular injury. Periocular vascular occlusion and blindness might happen when the patient is receiving glabella and periocular injection of HA products. Slow injection, limited volume, and experienced injectors are always advocated in these high risk areas. Topical and oral antibiotics would treat implant-related infections and scar is best managed by prevention.

Complications of collagen-containing fillers

Injection of bovine collagen is more of historical interest and is replaced by human and porcine collagen in which skin tests are not required. In general, collagens have very brief persistence lasting 2-3 months. Patients desiring longer correction might be candidates for collagen injection just to experience the transitory result guiding the subsequent treatment of longer-acting fillers.

Injectable polymethylmethacrylate (PMMA) is composed of 20% non-resorbable PMMA and 80% bovine collagen. After injection, the collagen component is degraded within three months, and replaced by host collagen. The PMMA particles, which are too large to be removed by macrophage phagocytosis, remain long lasting to permanent. Sensitivity is rare but granulomatous foreign body reactions to bovine collagen could reach 1.3% in some series. Two skin tests prior to animal-derived product injection and use of steroid and anti-inflammatory agents could avoid severe adverse effects.

Judicious use of injectable PMMA should be emphasised. Due to its permanency, PMMA is less forgiving of faulty techniques than other fillers. It is recommended to inject PMMA targeting at the dermal-subdermal junction. Smaller volume injection in a staged (2-3 times, 8-16 weeks apart) manner is always preferred to a single bolus treatment ending up in over-correction. Any palpable lumps should be massaged and a gloved thumbnail could be used to distribute this material into the surrounding dermis. Palpable nodules, papules, excessive fullness, and true granulomas after incorrectly placed or excessive injectant have been reported. Granulomas are found 6-24 months after injection.

Minor nodularity may respond well to direct steroid injection. Fine 31G needle, exact localisation, and small amount (0.05-0.1ml) of low concentration steroid (10mg/ml triamcinolone acetonide) could enhance the maximal control of the steroid treatment in avoiding dermal

atrophy. In case of persistent and resistant nodules, surgical excision and biopsy would be wise so as to rule out infection.

Complications of Collagen stimulators

Poly-L-Lactic Acid is a resorbable polymer that stimulates fibrous tissue response. PLLA is quickly resorbed following injection. The induced fibrous tissue would slowly fill up the defect and concavity two months later. PLLA microparticles are degraded to pyruvic acid and then to carbon dioxide and water. A combination of fibrous tissue response with collagen deposition forming around the foreign body reaction would result in the final volume effect. This material is specifically indicated for HIV patients with facial atrophy. Cosmetic use for ageing face to correct volume loss in buccal, malar, and temporal fat pads are under off-label use.

Typically 5ml of sterile water is needed to reconstitute the PLLA product 2 hours before injection. Criss-cross fanning pattern of 0.1-0.2ml of PLLA is placed at every 0.5cm. Over-correction should be avoided. Serial injections of 2-4 sessions 4-6 weeks apart might be required to achieve optimal results. Depth of placement could be varied on the periosteum at the orbital rim, in the subdermal for the midface and in the deep dermis of the lower face.

Palpable nodules are the most troublesome adverse events, commonly due to uneven product distribution, and may appear within a few weeks or months later. To minimise nodularity, the injection should avoid thin skin areas and the lips, using more dilution (7 ml sterile water) and longer reconstitution time (>72 hours), keeping at room temperature, utilising larger bore needle or cannula (25-26G), injecting in cross-hatch manner, administrating in even distribution, and following a strict post-treatment massage programme. The manufacturer currently does not recommend periorbital injections. Bolus material could be dispersed by sterile saline injection. Intralesional steroid, 5FU, systemic steroid, and surgical excision might be required.

Complications of Calcium Hydroxylapatite

Injectable Calcium Hydroxylapatite (CaHA) has a composition of 30% spherical particles in a suspension gel. CaHA is a synthetic product and is identical to bone material, non-obstructive in x-rays, and does not stimulate heterotopic bone growth. After injection, the gel would be phagocytised and replaced by collagen, constituting similar volume. Inorganic ca and phosphate microspheres would be eliminated as those in normal bone metabolism via urine secretion.

CaHA is indicated in the correction of facial wrinkles and HIV lipodystrophy. Glabella fold should be corrected with caution to avoid tissue necrosis due to the viscosity of CaHA causing vascular compression. In general, this viscous filler is more indicated in the deep dermis and subcutis level and is not advisable for lip and superficial placement.

Filler rhinoplasty and chin genioplasty require more experienced and advanced injection techniques than nasolabial fold correction. Because of its viscosity, 27G or thin wall 30G needles are preferred and ice packs are recommended after injection. Targeting CaHA at the dermal-subcutaneous border would achieve the best filler effect, when placed superficial to this border, CaHA would cause nodules, and when placed deeper, then would lose its effect. No serious complications have been reported. Bruising, swelling, and erythema are not common. Nodules might be found, especially at the lip and could be managed by gentle massage. Troublesome nodules could be removed using needle or slit excision. A single injection would last for 15 months. With a second boost two months later, there would be filler effects prolonging to 18 months. However, long term follow-up studies are not available.

Complication of Autologous Fat Transfer

Lipo-transfer consists of harvesting, processing, and injecting of fat. However, optimal techniques are still debatable. Prevailing views of small living fat graft transfer and concomitant adipose-derived adult stem cells could be applied in small or large facial defects volume restoration. Successful lipo-transfer relies on survival of adipocytes in small volume placement. Generally, the complication rate is low. Donor site morbidity, fat necrosis, implant extrusion, infection, overcorrection, lumpiness especially at the infraorbital area, intravascular injection, vascular occlusion and blindness have been reported. Use of blunt cannula, aspiration before injection, retrograde injection, low injection pressure with smaller syringes are suggested to reduce the vascular events.

Longevity of lipo-transfer is shown by a MRI study that 45% fat stayed after 6 months and remained static up to one year. Better persistence of lipo-transfer is found at the immobile area. Touch-up and repeat injections are often required for maintenance of results.[12]

Complications of permanent fillers (Silicone and PAAG)

Adverse reactions to permanent soft tissue injectable fillers are related to biofilm formation, and thence inducing greater foreign body response and denser fibrosis. [6]

Highly purified liquid silicone is chemically pure and viscosity-constant within the range of human body temperature. Injectable liquid silicone using microdroplet serial puncture technique is a safe and effective permanent intradermal and subdermal filler. Collagen encapsulation would have been completed after three months, and holds these silicone droplets in place preventing migration. Patients should be informed that silicone injection for soft tissue augmentation is an off-label use. The purer formulation and the

microdroplet technique have greatly reduced the risk of persistent delayed hypersensitivity reactions. Adverse events include expected erythema, swelling, bruises, brownish yellow discoloration, bluish tinge, over injection, diffuse swelling, beading, idiosyncratic inflammatory reactions, and migration. There might also be textural changes and peau d'orange appearance over the dermis.

Polyacrylamide hydrogel (PAAG) has been used as a soft tissue filler in mammoplasty and facial augmentation. Complications associated with PAAG injections include infection, nodularity and migration. Biofilm at the interface after critical colonisation of contaminated pathogens would lead to local infection and abscess formation. MRI findings using sagittal and axial T2-weighted are best to distinguish features of high water content hydrogel complications.[7] Facial injection of this hydrogel has resulted in disaster of facial tissue ulceration (fig. 1 & 2) and bony erosion.[8]

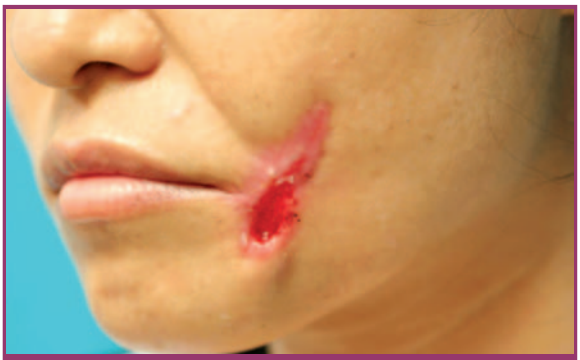

Fig 1. Oblique view of left facial ulceration after PAAG Injection Facial Augmentation

Fig 2. Frontal view of PAAG Injection Facial Augmentation

Summary

Despite the popularity and public interest in facial fillers in recent years, surgeons and dermatologists should safeguard the standard of care of facial fillers in cosmetic facial plastic procedures. An ethical and responsible surgical plan, proper selection of patients, well-tailored choices of appropriate fillers, mastery of proper injection techniques, thorough understanding of the characteristics of the fillers and tissue responses, sound knowledge of the anatomy of the area of treatment, timely recognition of the adverse effects with immediate effective treatment should all be integral parts of a safe and effective practice to enhance esthetic outcomes with high satisfaction.

References

1. Zide BM. Radiesse: short term experience. Aesthetic Surg J 2003;23(6);495
2. Narins RS. A randomized, double-blind, multicenter comparison of the efficacy and tolerability of Restylane versus Zyplast for the correction of nasolabial folds. Dermatol Surg 2003;29:588
3. Glogan RG. Effect of injection techniques on the rate of local adverse events in patients implanted with nonanimal hyaluronic acid g dermal fillers. Dermatol Surg 2008;34 suppl 1:S105
4. Schanz S. Arterial embolization caused by injection of hyaluronic acid (Restylane). Br J Dermatol 2002;146:928.
5. Narins RS. Clinical conference: management of rare events following dermal fillers-focal necrosis and angry red bumps. Dermatol Surg 2006;32:426
6. Lisechristensen. Adverse reactions to injectable soft tissue permanent fillers. Aesth Plast Surg 2005;29:34
7. Lui CY. Evaluation of MRI findings after polyacrylamide gel injection for breast augmentation. AJR 2008;191:677
8. Liu LH, Cheung WY. Complications of polyacrylide hydrogel (PAAG) injection in facial augmentation. J Plast Reconstr Aesthe Surg 2010;63:e9
9. Lemperle G. Avoiding and treating dermal filler complications. Plast Reconstr Surg 2006;118(suppl):925
10. Glogan RG. Effect of injection techniques on the rate of local adverse events in patients implanted with nonanimal hyaluronic acid g dermal fillers. Dermatol Surg 2008;34 suppl 1:S105
11. Cohen JL. Understanding, avoiding, and managing dermal filler complications. Dermatol Surg 2008;34 suppl 1:S92
12. Alam M & Task Force. ASDC guidelines of care: Injectable Fillers. Dermatol Surg 2008;34:S115.

Radiology Quiz

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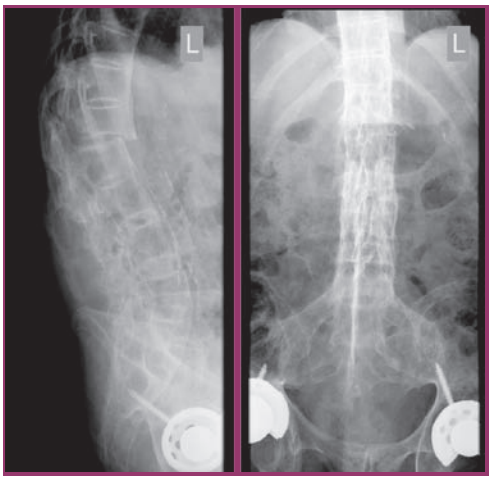


History:

77-year-old male patient with known chronic illness, complained of sudden onset of back pain.

Imaging:

Plain radiograph of the lumbar spine in frontal projection.

What are the imaging findings, diagnosis and further management?

(See P.37 for answers)

World OT Day

To celebrate the "World OT Day", the Hong Kong Occupational Therapy Association (HKOTA) co-organised with the HKFMS Foundation a series of events. The aim of these events is to promote and educate the public about Occupational Therapy. The kickoff event was the OT Fun Day on 6th October at the Sha Tin Town Hall Plaza. With the theme "Live Life to Its Fullness", the event included game booths and educational displays on the three dimensions - Geriatric, Paediatric and Mental Health.

The opening ceremony started with the guest speeches delivered by Legislator Dr. Chiu-hung CHEUNG and Dr. Kok-long LEE, SBS, JP, followed by a fun-filled ceremony with blastoff of OT balloons. The ceremony was officiated by Dr. CHEUNG and Dr. LEE, and also Dr. Raymond LO, President of the HKFMS Foundation Limited, Prof. Hector TSANG of the Department of Rehabilitation Sciences of the Hong Kong Polytechnic University, Ms Joy KOK, Chief Executive, the Public Awareness and Education Fund, the Hong Kong Early Psychosis Intervention Society, and Mr. Samuel CHAN, President of the Hong Kong Occupational Therapy Association.

With live performances of Chinese health exercise Ba Duan Jjin (八段錦) and the wonderful live band show, the participants from the community had an enjoyable and memorable time at the OT Fun Day. Through various game booths, they also gained a deeper understanding and knowledge on mild cognitive impairment and home safety for the elderly, as well as writing and learning difficulties.

As a continuation of the OT Fun Day, an educational talk was also held in the afternoon of 27th October (Saturday) in the Auditorium, 2nd Floor of the Duke of Windsor Social Service Building, 15 Hennessy Road, Wan Chai. The Federation and Foundation look forward to further collaborations with the HKOTA on future public and educational activities

Public Talk on Hepatitis

On 7th October, a Public Talk was held at the Federation Lecture Hall attended by over 70 members from the public to update them on the prevention and knowledge on an important health issue, "Hepatitis".

It was our honour and privilege to have three renowned guest speakers, Dr. Nancy LEUNG, Founding Chairperson of ASIAHEP Hong Kong and Clinical Professor (Hon) of The Chinese University of Hong Kong; Dr. Tai-nin CHOW, President of the Hong Kong Association For the Study of Liver Diseases and Consultant of Gastroenterologist and Hepatologist of the Union Hospital and Dr. Michael KK LI, Consultant Physician of the Department of Medicine and Geriatrics of the Tuen Mun Hospital to share with us their expertise on the topic. The afternoon was highly stimulating as the three guest speakers provided the participants not just a comprehensive review, but also an entertaining talk. The first section, delivered by Dr. LEUNG, focused on the functions of the liver, as well as the nature and treatment of Hepatitis B and C. As for the second section, Dr. CHOW included the causes of acute Hepatitis, in particular A and E, and their modes of transmission. He also drew the participants' attention to the vaccination measures against Hepatitis. In the third section, Dr. LI stressed the comparison between alcoholic and non-alcoholic fatty livers and fatty livers' transformation into cirrhosis. Listing out some Chinese medicines, Dr. LI discussed their potential harm to human livers.

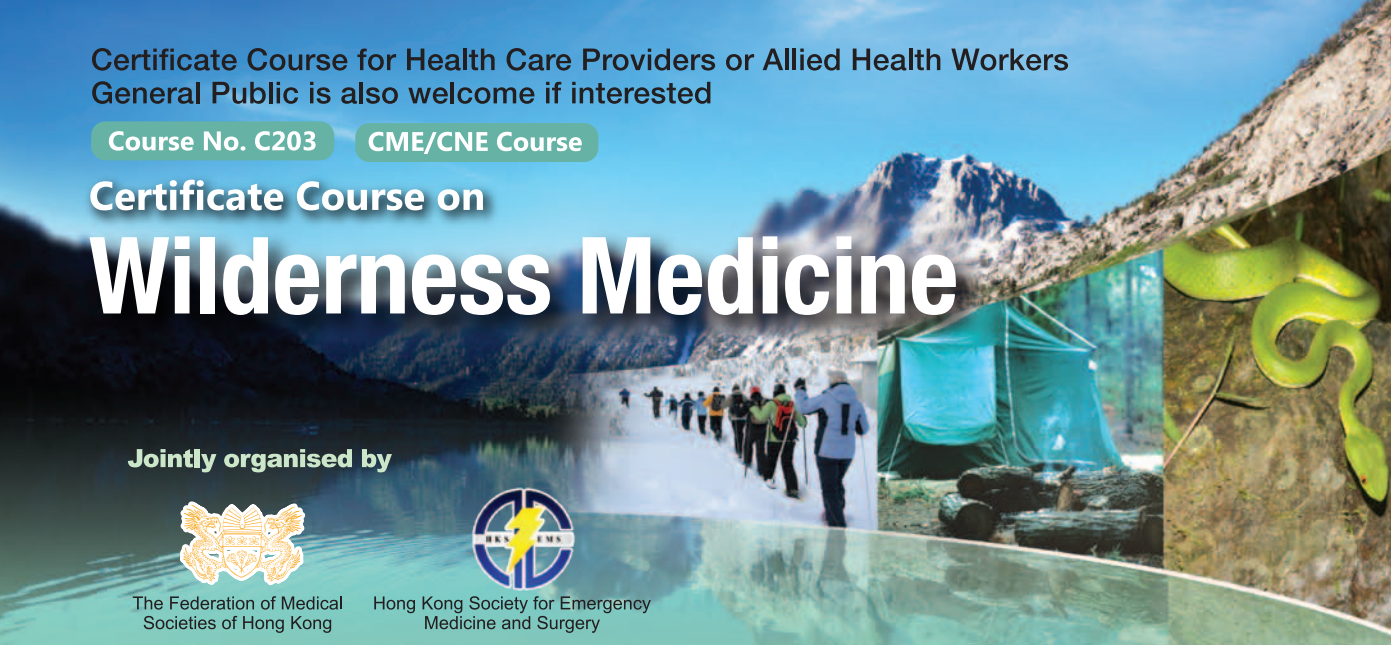
The participants' attentiveness and active questioning, and together with the informal exchange at the tea break, helped complete a very successful afternoon of public educational event. We look forward to the next public talk on dementia and care for caregivers on 18th November at the Federation.

Certificate Course for Health Care Providers or Allied Health Workers
General Public is also welcome if interested

Course No. C203 **CME/CNE Course**

Certificate Course on

Wilderness Medicine



Jointly organised by

The Federation of Medical Societies of Hong Kong

Hong Kong Society for Emergency Medicine and Surgery

Wilderness Medicine: An adventure of Emergency Physicians & Practitioners in the wild

野外醫學: 急診醫療專業人員的野地歷險記

Objectives:

Wilderness activities rapidly gain an increase in popularity among Hong Kong citizen in recent years. However wilderness environment processes a totally different type of threats and dangers to those participants that involve in wilderness activities. This course aims at providing the basic medical knowledge on wilderness medicine and specific practical information related to the problems that might arise in wilderness environment.

野外活動過去幾年在香港迅速普及。但野外環境對於野外活動的參與者，會造成完全不同類型的威脅和危險。本課程旨在提供基本的野外醫學知識及相關的實用處理技巧。

Date	Topics	Speakers
4 Jan 2013	Introduction to Wilderness Medicine 野外醫學介紹 Problems with Heat and Cold in Wilderness 在野外因高溫及低溫所引發的問題	Dr. Peter CHEE 池丕恩醫生 香港急症科醫學院院士
11 Jan 2013	Wilderness Medicine for Expedition & Backcountry 探險遠征及偏遠地區的野外醫學	Dr. Kevin HUNG 洪磯正醫生 香港急症科醫學院院士
18 Jan 2013	High altitude related problems in wilderness, prevention and management 野外高海拔所引發的相關問題，預防與處理	Dr. Man-Kam HO 何文錦醫生 香港急症科醫學院院士
25 Jan 2013	Poisonous Stings and Bites in Wilderness Land - First Aid and Management in Wilderness 在野外被毒物蜇咬的急救與處理	Dr. Wah-Shan NG 伍華山醫生 香港急症科醫學院院士
1 Feb 2013	Management of Accident in Wilderness, Wound care, Fracture and Lightning 野外事故，創傷，骨折和雷擊的處理	Dr. Axel SIU 蕭粵中醫生 香港急症科醫學院院士
8 Feb 2013	Helicopter Search & Rescue for Wilderness victims, Experience from AMNO in GFS 對於野外傷者的直升機搜尋和救援 政府飛行服務隊航空醫療護士的經驗體會	Mr. Shing-Lam KWOK 郭成霖先生 政府飛行服務隊 航空醫療護士 急症室護士長

Dates : 4 January 2013 – 8 February 2013 (Every Friday)
Time : 7:00 p.m. – 8:30 p.m.
Venue : Lecture Hall, 4/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong
Language Media : Cantonese (Supplemented with English)
Course Fee : HK$750 (6 sessions)
Certificate : Awarded to participants with a minimum attendance of 70%
Enquiry : The Secretariat of The Federation of Medical Societies of Hong Kong
Tel: 2527 8898 Fax: 2865 0345 Email: info@fmshk.org

CME / CPD Accreditation in application

A total of 9 CNE points for the whole course and the points will be awarded according to the number of hours attended.
Application form can be downloaded from website: http://www.fmshk.org

Medical Diary of November

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				★HKMA CME – The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 1) **1**	★Joint Surgical Symposium - Unusual Headache **2**	★Mastering Professional Interactions ★14th Beijing/Hong Kong Medical Exchange **3**
★14th Beijing/Hong Kong Medical Exchange ★Joint Professional Table Tennis Tournament 2012 ★HKMA Family Sports Day ★Mastering Shared Decision Making ★HKMA Tennis Tournament 2012 **4**	**5**	★HKMA CME- The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 1) ★FMSHK Officers' Meeting ★HKMA Council Meeting **6**	★HKMA Shatin Doctors Network - Workshop in Common ENT clinic procedures (Throat) **7**	★HKMA NTW Community Network – Certificate Course on Eye Diseases (Session 3) "Update on Cosmetic Eyelid Surgery" ★Update of Common Rhinology Problem ★HKMA CME - The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 2) ★HKMA Structured CME Programme with Hong Kong Sanatorium & Hospital Year 2012 – Minimal access surgery **8**	★HKMA Yau Tsim Mong Community Network - Clinical Intervention of Tadalafil 5mg **9**	★Mastering Your Risk ★Refresher Course for Health Care Providers 2012/2013 **10**
★"Bringing Better Health to Our Community" Community Service Day ★Mastering Difficult Interactions with Patients ★HKMA Tennis Tournament 2012 **11**	**12**	★HKMA Kowloon West Community Network - Lecture Series on Allergic Diseases - Practical Rhinitis Management ★HKMA CME - The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 2) **13**	★Hong Kong Neurosurgical Society Monthly Academic Meeting –The Merits of Endoscopic-assisted Minimally Invasive Neurosurgery ★Management of Insomnia and the Use of Hypnotic Medications ★Mastering Professional Interactions **14**	★HKMA Kowloon East Community Network – Certificate Course for GPs 2012 ★HKMA CME- The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 3) ★FMSHK Executive Committee, Council Meeting, Foundation Meeting and Annual General Meeting **15**	★Multi-disciplinary Approach to Type 2 Diabetes in Primary Care Setting: The Role of DPPIV inhibitors ★Using Psychiatric Drugs in Non- Psychiatric Clinics: An Update (Part I) ★HKMA Trailwalker - Oxfam Trailwalker 2012 **16**	★HKMA Trailwalker - Oxfam Trailwalker 2012 **17**
★HKMA Trailwalker - Oxfam Trailwalker 2012 ★HKMA Tennis Tournament 2012 **18**	**19**	★HKMA CME - The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 3) ★Mastering Difficult Interactions with Patients **20**	**21**	★The Latest Development in Treatment of Heavy Menstrual Bleeding ★HKMA CME - The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 4) **22**	**23**	★Mastering Shared Decision Making **24**
★Mastering Your Risk ★HKMA Tennis Tournament 2012 **25**	**26**	★HKMA Kowloon West Community Network - Lecture Series on Allergic Diseases - Management Update in Asthma and COPD ★HKMA CME- The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 4) **27**	★Maximizing Bronchodilation in COPD ★Mastering Adverse Outcomes **28**	★HKMA Hong Kong East Community Network - Latest Update in GERD Treatment **29**	★HKMA Shatin Doctors Network - Rheumatic Diseases: Types, Causes, Symptoms and Treatments ★Using Psychiatric Drugs in Non- Psychiatric Clinics: An Update (Part II) ★19th Annual Scienfic Meeting – Radiation Oncology in Neurosurgical Practice **30**	

Date / Time	Function	Enquiry / Remarks
1 THU 1:30 pm	**HKMA CME – The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 1)** Organiser: The Hong Kong Medical Association Community Network, Speaker: Prof. Ip Wing Yuk, Venue: HKMA Head Office (5/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Hong Kong)	Ms. Viviane LAM Tel: 2527 8452 2 CME points
2 FRI 8:00 am	**Joint Surgical Symposium - Unusual Headache** Organiser: Department of Surgery, The University of Hong Kong & Hong Kong Sanatorium & Hospital, Chairman: Professor William I WEI, Speakers: Dr. Yiu-wah FAN & Dr. Wilson HO, Venue: Hong Kong Sanatorium & Hospital	Department of Surgery, Hong Kong Sanatorium & Hospital Tel: 2835 8698 1 CME point
3 SAT 2:00 pm	**Mastering Professional Interactions** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. Lee Wai Hung, Danny, Venue: Eaton Hotel	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
(4)	**14th Beijing/Hong Kong Medical Exchange** Organiser: The Hong Kong Medical Association, Chairmen: Dr. CHAN Hau Ngai, Kingsley & Dr. SHIH Tai Cho, Louis, Venue: Ball Room, 3/F, Sheraton Hotel, TST	Ms. Candy YUEN Tel: 2527 8285 8.5 CME points
4 SUN 12:00 pm	**Joint Professional Table Tennis Tournament 2012** Organiser: The Hong Kong Medical Association, Venue: Luen Wo Hui Sports Centre, Fanling	Miss Phoebe WONG Tel: 2527 8285
1:00 pm	**HKMA Family Sports Day** Organiser: The Hong Kong Medical Association, Venue: Stanley Ho Sports Centre	Miss Phoebe WONG Tel: 2527 8285
2:30 pm	**Mastering Shared Decision Making** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. FUNG Shu Yan, Anthony, Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
8:00 pm	**HKMA Tennis Tournament 2012** Organiser: The Hong Kong Medical Association, Venue: Kowloon Tong Club	Miss Phoebe WONG Tel: 2527 8285
6 TUE 1:30 pm	**HKMA CME- The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 1)** Organiser: The Hong Kong Medical Association Community Network, Speaker: Prof. IP Wing Yu, Venue: Chiu Chow Garden, Shops 001-003, 1/F, Uptown Plaza, Tai Po, NT	Ms. Viviane LAM Tel: 2527 8452 2 CME points
8:00 pm	**FMSHK Officers' Meeting** Organiser: The Federation of Medical Societies of Hong Kong, Venue: Gallop, 2/F., Hong Kong Jockey Club Club House, Shan Kwong Road, Happy Valley, Hong Kong	Ms. Nancy CHAN Tel: 2527 8898
8:00 pm	**HKMA Council Meeting** Organiser: The Hong Kong Medical Association, Chairman: Dr. TSE Hung Hing, Venue: HKMA Head Office (5/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Hong Kong)	Ms. Christine WONG Tel: 2527 8285
7 WED 1:00 pm	**HKMA Shatin Doctors Network - Workshop in Common ENT clinic procedures (Throat)** Organiser: HKMA Shatin Doctors Network, Chairman: Dr. MAK Wing Kin, Speaker: Dr. HO Wai Ki, Ricky, Venue: Room 717, One Grand Tower, 639 Nathan Road, Mongkok	Mr. Brian PANG Tel: 3971 2808 2 CME points
8 THU 1:00 pm	**HKMA NTW Community Network – Certificate Course on Eye Diseases (Session 3) "Update on Cosmetic Eyelid Surgery"** Organiser: HKMA NTW Community Network & Hong Kong Ophthalmic Associates, Chairman: Dr. CHAN Lam Fung, Lambert, Speaker: Dr. YU Shan, Carol, Venue: Plentiful Delight Banquet, Yuen Long	Mr. Alan LAW Tel: 2527 8285 1 CME point
1:00 pm	**Update of Common Rhinology Problem** Organiser: HKMA Kln East Community Network, Speaker: Dr. CHAN Wing Kwan, Venue: Lei Garden Restaurant, Shop No. L5-8 on Level 5, APM Millennium City 5, 418 Kwun Tong Road, Kwun Tong	Mr. Alan LAW Tel: 2527 8285 1 CME point
1:30 pm	**HKMA CME - The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 2)** Organiser: The Hong Kong Medical Association, Speaker: Dr. Raymond HF CHAN, Venue: HKMA Head Office (5/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Hong Kong)	Ms. Viviane LAM Tel: 2527 8452 2 CME points
2:00 pm	**HKMA Structured CME Programme with Hong Kong Sanatorium & Hospital Year 2012 – Minimal access surgery** Organiser: The Hong Kong Medical Association, Speaker: Dr. Li Ka Wah, Michael, Venue: HKMA Central Premises, 2/F. Chinese Club Building, 21-22 Connaught Road Central, HK	Ms. Viviane LAM Tel: 2527 8452 1 CME point
9 FRI 1:00 pm	**HKMA Yau Tsim Mong Community Network - Clinical Intervention of Tadalafil 5mg** Organiser: HKMA Yau Tsim Mong Community Network, Chairman: Dr. LAM Tzit Yuen, David, Speaker: Dr. CHAN Lung Wai, Venue: Nathan III-Hall, 1/F, Eaton Smart, 380 Nathan Road, Kowloon	Mr. Peter TSANG Tel: 2105 1622
10 SAT 2:00 pm	**Mastering Your Risk** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. Lee Wai Hung, Danny, Venue: Eaton Hotel	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
2:30 pm	**Refresher Course for Health Care Providers 2012/2013** Organiser: The Hong Kong Medical Association, Speaker: Dr. LAM Wing Wo, Venue: Training Room II, 1/F, OPD Block, Our Lady of Maryknoll Hospital, 118 Shatin Pass Road, Wong Tai Sin, Kowloon	Ms. Clara TSANG Tel: 2354 2440 2 CME points
11 SUN 2:00 pm	**"Bringing Better Health to Our Community" Community Service Day** Organiser: The Hong Kong Medical Association, Kowloon Central Cluster of the Hospital Authority, the Hong Kong Baptist Hospital, the Hong Kong Nephrology Group, Executive Committee of the Yau Tsim Mong Healthy City & Kowloon Region School Heads Association and Tsim S, Speaker: Dr. CHAN Kam Tim, Ms. Doris LAU & Dr. TSANG Wai Kay, Venue: Hall of The Tsim Sha Tsui District Kai Fong Welfare Association, 136A Nathan Road, Tsim Sha Tsui, Kowloon	Miss Candice TONG Tel: 2527 8285
2:30 pm	**Mastering Difficult Interactions with Patients** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. CHENG Ngai Shing, Justin, Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
8:00 pm	**HKMA Tennis Tournament 2012** Organiser: The Hong Kong Medical Association, Venue: Kowloon Tong Club	Miss Phoebe WONG Tel: 2527 8285

Date / Time	Function	Enquiry / Remarks
13 TUE 1:00 pm	**HKMA Kowloon West Community Network - Lecture Series on Allergic Diseases - Practical Rhinitis Management** Organiser: HKMA Kowloon West Community Network, Speaker: Dr. CHOW Chun Kuen, Lawrence, Venue: Crystal Room I-III, 30/F., Panda Hotel, 3 Tsuen Wah Street, Tsuen Wan, NT	Miss Candice TONG Tel: 2527 8285
1:30 pm	**HKMA CME - The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 2)** Organiser: The Hong Kong Medical Association Community Network, Speaker: Dr. Raymond HF CHAN, Venue: Chiu Chow Garden, Shops 001-003, 1/F, Uptown Plaza, Tai Po, NT	Ms. Viviane LAM Tel: 2527 8452 2 CME points
14 WED 7:30 am	**Hong Kong Neurosurgical Society Monthly Academic Meeting –The Merits of Endoscopic-assisted Minimally Invasive Neurosurgery** Organiser: Hong Kong Neurosurgical Society, Chairman: Dr. CHAN Kwong Yau, Speaker: Dr. WOO Yat Ming, Peter, Venue: Seminar Room, Ground Floor, Block A, Queen Elizabeth Hospital	Miss Candice TONG Tel: 2527 8285 1 CME point
1:00 pm	**Management of Insomnia and the Use of Hypnotic Medications** Organiser: HKMA Kowloon City Community Network, Chairman: Dr. CHIN Chu Wah, Speaker: Dr. CHANG Chi Lok, Venue: Sportful Garden Restaurant, 2/F, Site 6, The Whampoa Garden, 10 Shung King Street, Hung Hom	Miss Candice TONG Tel: 2527 8285 1 CME point
6:30 pm	**Mastering Professional Interactions** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. HAU Ka Lam, Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
15 THU 1:00 pm	**HKMA Kowloon East Community Network – Certificate Course for GPs 2012** Organiser: Hong Kong Medical Association HA-United Christian Hospital & HK College of Family Physicians, Chairman: Dr. LEUNG Man Fuk, Speaker: Dr. Kenneth LI Kai Wang, Venue: East Ocean Seafood Restaurant, Shop 137, 1/F, Metro City Plaza 3, Mau Yip Road, Tseung Kwan O, Kowloon	Mr. Alan LAW Tel: 2527 8285 1 CME point
1:30 pm	**HKMA CME- The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 3)** Organiser: The Hong Kong Medical Association Community Network, Speaker: Mr. LO Felix, Venue: HKMA Head Office (5/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Hong Kong)	Ms. Viviane LAM Tel: 2527 8452 1 CME point
7:00 pm	**FMSHK Executive Committee, Council Meeting, Foundation Meeting and Annual General Meeting** Organiser: The Federation of Medical Societies of Hong Kong, Venue: Council Chamber, 4/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms. Nancy CHAN Tel: 2527 8898
16 FRI 1:00 pm	**Multi-disciplinary Approach to Type 2 Diabetes in Primary Care Setting: The Role of DPPIV inhibitors** Organiser: HKMA Shatin Doctors Network, Chairman: Dr. MAK Wing Kin, Speaker: Prof. KONG Pik shan, Alice, Venue: Jasmine Room, Level 2, Royal Park Hotel, Shatin, Hong Kong	Mr. Jake SHUM Tel: 2964 2956 1.5 CME points
1:00 pm	**Using Psychiatric Drugs in Non- Psychiatric Clinics: An Update (Part I)** Organiser: HKMA NTW Community Network & Institute of Brain Medicine, Chairman: Dr. LEE Fook Kay, Aaron, Speaker: Dr. Siu-Wa TANG, Venue: Grand Ballroom, Harbour Plaza Resort City,18 Tin Yan Road, Tin Shui Wai, New Territories, Hong Kong	Mr. Alan LAW Tel: 2527 8285
(17,18)	**HKMA Trailwalker - Oxfam Trailwalker 2012** Organiser: The Hong Kong Medical Association, Venue: MacLehose Trail	Miss Phoebe WONG Tel: 2527 8285
18 SUN 8:00 pm	**HKMA Tennis Tournament 2012** Organiser: The Hong Kong Medical Association, Venue: Kowloon Tong Club	Miss Phoebe WONG Tel: 2527 8285
20 TUE 1:30 pm	**HKMA CME - The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 3)** Organiser: The Hong Kong Medical Association Community Network, Speaker: Mr. CHAN Clement, Venue: Chiu Chow Garden, Shops 001-003, 1/F, Uptown Plaza, Tai Po, NT	Ms. Viviane LAM Tel: 2527 8452 2 CME points
21 WED 6:30 pm	**Mastering Difficult Interactions with Patients** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. CHENG Ngai Shing, Justin, Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
22 THU 1:00 pm	**The Latest Development in Treatment of Heavy Menstrual Bleeding** Organiser: HKMA Kln East Community Network, Chairman: Dr. AU Ka Kui, Gary, Speaker: Dr. YANG Tan Mei, Venue: Lei Garden Restaurant, Shop No. L5-8 on Level 5, APM Millennium City 5, 418 Kwun Tong Road, Kwun Tong	Mr. Alan LAW Tel: 2527 8285
1:30 pm	**HKMA CME - The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 4)** Organiser: The Hong Kong Medical Association Community Network, Speaker: Ms. NG Jenny, Venue: HKMA Head Office (5/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Hong Kong)	Ms. Viviane LAM Tel: 2527 8452 2 CME points
24 SAT 2:00 pm	**Mastering Shared Decision Making** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. CHENG Ngai Shing, Justin, Venue: Eaton Hotel	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
25 SUN 2:30 pm	**Mastering Your Risk** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. CHEUNG Kit Ying, Andy, Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
8:00 pm	**HKMA Tennis Tournament 2012** Organiser: The Hong Kong Medical Association, Venue: Kowloon Tong Club	Miss Phoebe WONG Tel: 2527 8285

Date / Time	Function	Enquiry / Remarks
27 TUE 1:00 pm	**HKMA Kowloon West Community Network - Lecture Series on Allergic Diseases - Management Update in Asthma and COPD** Organiser: HKMA Kowloon West Community Network, Speaker: Dr. CHAN Chung Yan, Anthony, Venue: Crystal Room I-III, 30/F, Panda Hotel, 3 Tsuen Wah Street, Tsuen Wan, NT	Miss Candice TONG Tel: 2527 8285 1 CME point
1:30 pm	**HKMA CME- The Hong Kong Medical Association Community Network Exercise Prescription Courses (Session 4)** Organiser: The Hong Kong Medical Association Community Network, Speaker: Ms. LAU Rufina, Venue: Chiu Chow Garden, Shops 001-003, 1/F, Uptown Plaza, Tai Po, NT	Ms. Viviane LAM Tel: 2527 8452 2 CME points
28 WED 1:00 pm	**Maximizing Bronchodilation in COPD** Organiser: HKMA CW&S Community Network, Chairman: Dr. POON Man Kay, Ricky, Speaker: Dr. CHAN Chio Ho, Michael, Venue: HKMA Central Premises, 2/F. Chinese Club Building, 21-22 Connaught Road Central, HK	Mr. Alan LAW Tel: 2527 8285
6:30 pm	**Mastering Adverse Outcomes** Organiser: Hong Kong Medical Association Medical Protection Society, Speaker: Dr. HUNG Chi Wan, Emily, Venue: Eaton Hotel	HKMA CME Dept. Tel: 2527 8452 2.5 CME points
29 THU 1:00 pm	**HKMA Hong Kong East Community Network - Latest Update in GERD Treatment** Organiser: HKMA Hong Kong East Community Network & Hong Kong East Cluster, Speaker: Prof. WONG Chun Yu, Benjamin, Venue: Hong Kong Medical Association Wanchai Premises,5/F, Duke of Windsor Social Services Building, 15 Hennessy Road, Wanchai	Miss Candice TONG Tel: 2527 8285
30 FRI 1:00 pm	**HKMA Shatin Doctors Network - Rheumatic Diseases: Types, Causes, Symptoms and Treatments** Organiser: HKMA Shatin Doctors Network, Chairman: Dr. MAK Wing Kin, Speaker: Dr. YU Ka Lung, Carrel, Venue: Jasmine Room, Level 2, Royal Park Hotel, Shatin, Hong Kong	Mr. Nelson LEUNG Tel: 9867 3698
1:00 pm	**Using Psychiatric Drugs in Non- Psychiatric Clinics: An Update (Part II)** Organiser: HKMA NTW Community Network & Institute of Brain Medicine, Chairman: Dr. LEE Fook Kay, Aaron, Speaker: Dr. Siu-Wa TANG, Venue: Grand Ballroom, Harbour Plaza Resort City,18 Tin Yan Road, Tin Shui Wai, New Territories, Hong Kong	Mr. Alan LAW Tel: 2527 8285
(1 Dec)	**19th Annual Scienfic Meeting – Radiation Oncology in Neurosurgical Practice** Organiser: Hong Kong Neurosurgical Society, Speaker: Dr. Reinhard E WURM, Venue: Langham Hotel, 8 Peking Road, TST	Ms. Shirley MA Tel: 2468 5402

Upcoming Meeting

2/12/2012	**2012 Paediatric Update No.3 – Paediatric Neurology** Organiser: Hong Kong College of Paediatricians, Chairmen: Dr. Sik Nin WONG & Dr. Shun Ping WU, Speakers; Dr. Shun Ping WU, Dr. Sheila WONG, Dr. Louis CK MA & Dr. Sophelia CHAN, Venue: Pao Yue Kong Auditorium, G/F, HK Academy of Medicine Jockey Club Building, 99 Wong Chuk Hang Road, Aberdeen, Hong Kong	Hong Kong College of Paediatricians Tel: 2871 8773 3 CME points (Category A)

Rental Fees of Meeting Room and Facilities at The Federation of Medical Societies of Hong Kong

(Effective from October 2009)

Venue or Meeting Facilities	Member Society (Hourly Rate HK$)			Non-Member Society (Hourly Rate HK$)		
	Peak Hour	Non-Peak Hour	All day Sats, Suns & Public Holidays	Peak Hour	Non-Peak Hour	All day Sats, Suns & Public Holidays
Multifunction Room I *(Max 15 persons)*	150.00	105.00	225.00	250.00	175.00	375.00
Council Chamber *(Max 20 persons)*	240.00	168.00	360.00	400.00	280.00	600.00
Lecture Hall *(Max 100 persons)*	300.00	210.00	450.00	500.00	350.00	750.00
Non-Peak Hour: 9:30am - 5:30pm Peak Hour: 5:30pm - 10:30pm						
LCD Projector	500.00 per session					
Microphone System	50.00 per hour, minimum 2 hours					

Answer to Radiology Quiz

Imaging Findings:

Fused bilateral sacroiliac joints.
Syndesmophytes and fused interspinous ligaments along the lumbar spine.
Findings are compatible with ankylosing spondylitis.
Bilateral hip prothesis noted, in line with previous avascular necrosis of hips.

There is disruption of syndesmophyte at L1/2 level, with widening of the intervertebral disc space, suggesting pseudoarthrosis.

Findings are confirmed with a lateral radiograph of spine which shows involvement of all 3 elements of the spine at L1/2.

Discussion:

Pseudoarthrosis is a potential complication of long-standing ankylosing spondylitis. Thought to be an insufficiency lesion, pseudoarthrosis often causes back pain without known trauma or several days after minimal trauma. It occurs most frequently at the thoracolumbar junction, and the most common mechanism of injury appears to be a torsional strain. The pseudoarthrosis represents subacute or chronic fractures of both the vertebral body and adjacent posterior elements of a given spinal segment. Sequelae from this lesion can include neurologic deficits.

In patients with chronic ankylosing spondylitis with long-standing back pain, infection must also be included in the differential diagnoses. MRI can be useful in distinguishing pseudoarthrosis from infection. In infections, MR imaging shows contrast enhancement in the adjacent discs and soft tissues, while pseudoarthrosis does not demonstrate increased enhancement of the involved discs. In this case, XR already suggests pseudoarthrosis rather than infection, and MRI is useful to exclude cord compression and exclude myelomalacic changes.

Dr. Helen HL SHE
Department of Radiology, Queen Mary Hospital

Relieve GERD & leave them to dream

NEW **DEXILANT**
dexlansoprazole
30 MG | 60 MG DELAYED RELEASE CAPSULES
Designed to deliver

24 HOUR CONTROL

- Sets a new standard for PPI therapy, with dual releases of active drug to provide significantly extended heartburn control[1,2]
- Effective across the spectrum of GERD[3,4]
- Maintain long-term healing and therefore quality of life[5,6]
- Lifestyle-friendly PPI: once daily, taken with or without food[1,7,8]

Dexilant Abbreviated Product Information

Presentation: Dexilant 30mg and 60mg capsules. Indication: Healing of all grades of erosive esophagistis (EE) for up to 8 weeks, maintenance of healed erosive esophagistis for up to 6 months, treatment of heartburn associated with symptomatic non-erosive gastroesophageal reflux disease (GERD) for 4 weeks. Dosage and administration: 60mg once daily for up to 8 weeks for healing of EE, 30mg once daily for maintenance of healed EE, 30mg once daily for 4 weeks for symptomatic non-erosive GERD. Dexilant can be taken without regard to food and should be swallowed in whole. Contraindication: contraindicated in patients with known hypersensitivity to any component of the formulation. Interaction: atazanavir, ampicillin esters, digoxin, iron salts, ketoconazole, warfarin, Tacrolimus. Precaution: gastric malignancy. Adverse reaction: diarrhea, abdominal pain, nausea, upper respiratory tract infection, vomiting, flatulence.

Reference:1. Dexilant prescribing information (DEX051 HK1 TT, HK Branch). 2. Wittbrodt ET et al., Clin Exp Gastroenterol 2009;2:117-28. 3. Fass R et al., Aliment Pharmacol Ther 2009;29:1261-72. 4. Sharma P et al., Aliment Pharmacol Ther 2009;29:731-41. 5. Metz DC et al., Aliment Pharmacol Ther 2009;29:742-54. 6. Howden CW et al., Aliment Pharmacol Ther 2009;30:895-07. 7. Lee RD et al., Aliment Pharmacol Ther 2009;29:824-33. 8. Lee RD et al., Aliment Pharmacol Ther 2010;31:1001-11.

For further information, consult full prescribing information.

* 96% of patient on Dexlansoprazole 60mg achieved 24-h heartburn-free days[8]

Growing Innovation

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