Look to the future of aortic valve: Adapt surgery to patient

Maurizio Roberto, Alessandra Dozio and Francesco Alamanni
University of Milano, Italy

The treatment of aortic valve diseases (AVD) involves a corollary of surgical technique, and thus our perspective is dramatically changed over the last few years. In the past AVD was treated with valve replacement using biological or mechanical prosthesis; but today we can tailor cardiac surgery to the patient; also frailty is not a barrier, but an indication for percutaneous or minimally invasive approach.

The evidence of minimally invasive aortic valve replacement (MI-AVR) safety and efficacy is clear and supported, in term of intra-operative skills, results and post-operative stay. The use of sutureless and rapid deployment (RD) bioprosthesis shall facilitate MI-AVR, but they are also suitable for conventional surgery, for example in case of small aortic annulus diameter, in “combined” or in REDO surgery.

Transcatheter aortic valve implantation (TAVI) has considerably changed aortic valve surgery invasiveness, indeed it has seen a rapid expansion in indications and devices. The surgery evolution has allowed to treat intermediate and high risk patient with severe peripheral arterial disease using trans-apical or trans-aortic approach.

MI-AVR, sutureless and RD bioprosthesis and TAVI allow the treatment of majority of AVD. Today we have different choices and chances to treat the patient and not only the aortic disease.
The study of composite skin grafting with human acellular dermal matrix scaffold for treating diabetic foot ulcers: A randomized controlled trial

Zhicheng Hu, Jiayuan Zhu and Bing Tang
The First Affiliated Hospital of Sun Yat-sen University, China

Background: Composite split-thickness skin grafting (STSG) with acellular dermal matrix (ADM) has been successfully used in burn injuries and traumatic defects, but its use in treating diabetic low extremity ulcers rarely has been reported. This study investigated the efficacy and safety of composite STSG with ADM in the treatment of diabetic foot ulcers.

Study Design: Fifty-two patients with diabetic foot ulcers were randomized divided into experimental and control groups. Patients in the experiment group received compositing STSG over ADM; the control group received STSG. The primary endpoint was the recurrence rate 12 months after grafting. The secondary endpoint was the healing quality of grafted site by Manchester Scar Scale (MSS), and the percentages of subjects that achieved complete wound and complications.

Results: The number of patients suffering from recurrence was significantly less in the experiment group compared to control group (1/23 versus 5/22, p=0.02). The autografted sites of the experimental group had better appearance with lower MSS scores [9 (8, 10.25) versus 11 (10, 12), p=0.006]. The rates of complete wound closure by weeks 2, 4, and 8 were similar, as were the rate of complications by post-grafting week 4 (10/26 versus 7/26, p=0.38).

Conclusions: These results suggest that composite STSG over an ADM scaffold provide an effective method to treat diabetic foot ulcers, with lower recurrence rate and better physical attributes compared with the traditional STSG method. Complete wound closure and complication rates were comparable between these methods.
Surgical strategies on acute type A aortic dissection

Xiaoping Fan
Guangdong Cardiovascular Institute, China

Acute type A aortic dissection (AAAD), the most challenging catastrophic disease in cardiothoracic surgery, is a highly fatal disease associated with high morbidity and mortality, and emergent surgical treatment is recommended for all patients to repair the proximal aorta, preventing rupture and the consequent cardiac tamponade. Due to the long run of cardiopulmonary bypass and hypothermic circulatory arrest (HCA) employed during the surgery, coagulation, neural and end-organ function is badly compromised. The operative mortality can be up to 25%. Therefore, surgical treatment for AAAD requires strategies involving multiple organs.

From 2016 to 2018, we have performed surgery on over 250 patients with AAAD. During these period, we have developed two novel techniques for AAAD, “Aortic-clamp” technique and “Modified Island” technique, which can greatly avoid the complication of HCA and shorten the operation time. Excellent surgical outcomes have been obtained. The surgical mortality rate is around 3% and only one patient developed permanent neurological deficit. On our experience, surgical treatment is the first choice for AAAD. The keys in the operation is: avoiding the side-effect of HCA, preserving the end-organ function and shorten the operation time.
Surgical management of locally advanced, head and neck cancer

Chao Li1, Yuqiu Zhou, Chunyan Shui, Lu Huang, Yongcong Cai1, Ronghao Sun, Wei Wang, Jing Tu and Qiaoli
Sichuan Cancer Hospital, China

Objectives: This study was to 1) explore the value of modern surgery in multidisciplinary team C Multidisciplinary team, MDT of head and neck cancer (HNC), 2) elaborate the surgery development in HNC including radical treatment at the beginning, salvage surgery of the late recurrence or palliative patients, repair and reconstruction of defect and function, 3) preliminarily discuss the application of modern techniques to HNC, such as computer aided design and manufacturing (CAD/CAM), 3D printing technology and virtual real (VR).

Methods: The medical records of HNC patients, who experienced MDT consultation since the past 15 years in our hospital was collected. The value of surgery in MDT, especially the status of surgery in advanced and recurrence HNC treatment, was retrospectively analyzed. The application of modern techniques to HNC was also preliminarily discussed.

Results: Compared with the previous single-disciplinary model, MDT has greatly improved the quality and optimized the process of diagnosis and treatment of patients with HNC. MDT is beneficial to the correct implementation of the stratification strategy and individualized therapy, which makes the practice of comprehensive treatment more reasonable and operable. Surgery is the initial radical treatment of most of HNC. The salvage surgery and the repair and one stage reconstruction of defect and function after radiotherapy and chemotherapy have irreplaceable advantages. Modern science and technology can help to improve the surgical efficiency, safety and treatment accuracy.

Conclusions: MDT can maximize the advantages of various disciplines and the collaboration of multi-disciplines, which is meaningful for HNC patients to be standardized and individualized treated. Surgery, especially salvage surgery and reparative and reconstructive surgery, plays an irreplaceable role in the comprehensive and individualized diagnosis and treatment of HNC patients. CAD/CAM, 3D printing technology and VR can improve the surgical efficiency, safety and treatment accuracy.

Key words: Head and Neck Cancer, Comprehensive Treatment, Multidisciplinary Team(MDT), Salvage Surgery, Reparative and Reconstructive Surgery, Precision Surgery
Loin pain and haematuria syndrome (LPHS) linked to symptomatic nephroptosis (SN) and revealing pedicle stretch causing neuro-ischaemia using the new IVU 7 sign

Salma A. Ghanem, Nisha Pindoria Khalid A. Ghanem and Ahmed N. Ghanem
Mansoura University, Egypt

Introduction and objectives- This article is based on a prospective 10 years' observational study on loin pain haematuria syndrome (LPHS) complicating symptomatic nephroptosis (SN) and the results of renal sympathetic denervation and nephropexy (RSD&N) surgery. The objective here is to demonstrate that renal pedicle stretch causes neuro-ischaemia as evidenced by the new IVU 7 sign.

Patients and methods- All patients presenting with loin pain with or without hematuria during 10 years were entered into a prospective observational study and underwent thorough clinical, laboratory and imaging investigations. Repeated standard imaging was invariably normal, when supine. However, 190 patients demonstrated SN of > 1.5 vertebrae on repeating intravenous urography (IVU) with erect film. Of whom 36 (18.9%) patients developed recurrent episodes of painful hematuria for which no organic pathology was detected on all imaging, when supine- thus fitting the definition of LPHS. The IVU 7 sign, with its horizontal and vertical segments, represents the renal pedicle at supine and erect IVU films, respectively was used for measuring renal pedicle stretch causing renal ischaemia.

Results- Of 190 with SN on IVU-E, 182 were females and 8 males. The mean age was 28.8, duration of symptoms 15.7 and hospital follow up 6.6 years.

Patients showed no abnormality on IVU or ancillary imaging when supine. All patients showed renal drop of >1.5 vertebrae (>5 cm) on erect IVU film. Other demonstrable pathology on erect IVP film included: pelviuretric junction kink affecting the right kidney in 116 (61.1%) and bilateral in 19 (10%) of patients. Stretch/rotation of renal pedicle causing neuro-ischaemic pain of LPHS was demonstrable on the right side in 72 (37.9%) and bilaterally in 7 patients.

Complications of SN on IVU erect film included both obstructive and neuro-ischaemic: obstructive complication included ballooned renal pelvis, hydronephrosis and upper pole diverticulum. Neuro-schaemic complications induced by pedicle stretch and rotation/twist were haematuria of the LPHS affecting 36 (18.9%), auto nephropexy affecting 12 right kidneys, upper pole calyctiasis with extra-vasation affecting 28 (15.8%) right kidney and 2 bilateral that are best shown on RGP. Renal atrophy affected 4 right kidneys. Upper pole infarction affected 2 kidneys. Retrograde pyelography (RGP) also demonstrated upper pole calyctiasis with extra-vasation. Surgical treatment was used in 28 patients; 10 had simple nephropexy and 18 had RSD&N for severe LPHS. Four of patients treated with simple nephropexy had recurrence of LPHS while those who had RSD&N were all cured.

Conclusion- Upright IVU film and RGP are essential for the diagnosis of SN complicating into LPHS. The new IVU 7 sign affirms that pedicle stretch causes ischaemic nephropathy. Renal sympathetic denervation and nephropexy is curable for LPHS but simple nephropexy is not.
Breast conserving surgery in patients with locally advanced breast cancer after neoadjuvant therapy

Mohamed Ibrahim
Fayoum University Hospitals, Egypt

Background: The main goal of neoadjuvant therapy (NAT) in locally advanced breast cancers is to convert inoperable tumor into operable tumor and usually allow an adequate control of the disease impossible with surgery alone. Moreover, after NAT the patients may be treated with breast-conserving surgery. The aim of this study was to evaluate the safety of breast conserving surgery in patients with locally advanced breast cancer after satisfactorily downstaging after neoadjuvant therapy.

Methods: Between 2006 and 2016, 86 patients with locally advanced breast cancer were treated with NAT (anthracycline-based chemotherapy) followed by breast conserving surgery after achieving adequate downstaging.

Results: The mean age was 48 years, the mean diameter of residual tumour was 6.1 cm. The ipsilateral recurrence rate was 8.9%. The most important predictive factors of recurrence were the degree of response to NAT and hormonal status of tumor.

Conclusions: Breast conserving surgery can be a safe procedure in patients with locally advanced breast cancer whom achieved a satisfactorily response after neoadjuvant therapy.
Nipple, areola & skin sparing mastectomy; is it oncologically safe procedure in Egyptian females

Galal Abou El-Nagah and Basma El-Sabaa
Alexandria University, Egypt

**Background:** Many articles have been published on the safety of skin sparing mastectomy (SSM). Success with skin sparing mastectomy has led to the reconsideration of the necessity to remove the skin overlying the nipple-areola complex. Leaving this area will improve the cosmetic appearance of the reconstructed breast which is the optimal aim of skin sparing mastectomy. The aim of this study is to prove whether or not the Nipple Areola Skin Sparing Mastectomy is oncologically safe in Egyptian females.

**Material & Methods:** This study included 64 cases of operable breast cancer that underwent modified radical mastectomy in the period between January 2010 and December 2010. The excluding criteria were patients who have received chemotherapy and patients who had skin changes involving nipple areola complex. All specimens were subjected to histopathological examination of the subareolar tissue examination searching for malignancy in the subareolar tissue. Patients’ demographics, tumor and histological characteristics were analyzed & correlated with pathological results.

**Results:** In 12 cases (18.8 %), the subareolar tissue was positive for malignancy. Positive predictive value was tumor size >4 cm, distance between tumor and nipple <6 cm (ρ = 0.05)

**Conclusion:** Nipple areola skin sparing mastectomy appears to be oncologically safe providing that the tumor is small and not close to the nipple and the areola.
An application of serious game to alleviate preoperative anxiety of pediatric patients

Hei-Jin Lee, Jin-Woo Park, Jung-Hee Ryu, Jin-Hee Kim and Sung-Hee Han
National University Bundang Hospital, Republic of Korea

A serious game, defined as 'a game designed for a primary purpose other than pure entertainment' is gaining popularity in education. Serious games can be applied in healthcare and patient education to increase the pleasure of learning and motivation of patients. Preoperative anxiety has been reported to be found in 40-60% of pediatric patients. Pre-operative visiting of mock operation room or preoperative detailed multimedia information has been reported to reduce preoperative anxiety effectively. In this case report, we provided virtual reality (VR) video games to pediatric patients. This VR serious game was designed to let the children have virtual experience of the process of preoperative preparation and general anesthesia induction during the play.

A 4-year-old boy and a 5-year-old girl were admitted to day-care surgery center to undergo short operating procedure. Each patient played VR games as a 360 degree 3 dimensional VR video game through a head mount display and a hand and finger motion controller (Fig.1). Preoperative anxiety was assessed two times with modified Yale preoperative anxiety scale: before experiencing the VR game and at the reception of the OR, in each case. The anxiety scores of the boy and the girl were 86.7 and 60 before the intervention and 23.3 and 36.7 at the reception, respectively. Both the patients also showed perfect compliance during anesthetic induction.

These cases suggested the feasibility and anticipate the positive effect of the VR video serious game in pediatric patient care.
Outcome of robotic (minimally invasive) fundoplication as day surgery

Nizar M. Yamani, Abdul-Aziz AlDrees and Rakan Mounla Ali
National Guard Hospital, KSA

Background: The prevalence of GERD in the Saudi Arabia was 23.47%, another systematic review reported that the prevalence was 10% to 20% in the Western world. A prospective review for Robotic / laparoscopic fundoplication performed as day surgery focusing on outcome and safety by a single surgeon.

Method: A prospective study of 123 patients who underwent Robotic / laparoscopic fundoplication as day surgery (6-18 hrs. Hospital stay), taking in consideration the pre-op course, type of surgery, and the post-op course, and patient outcome. In our institution, many patients had the GERD surgery as a day surgery without any complications. Most of them are satisfied with the outcome, and their symptoms resolved quickly confirming that it is a safe practice for most patients that fit the criteria.

Aim of the Study: Show the outcome, the cost effectiveness and the safety of this practice. Also to prove that contrast study post-op, and other investigations don't affect the outcome of the surgery. The safety, patient satisfaction and outcome are measured in this study.

Result: At the beginning of our surgery experience admission and post-op swallowing study was mandatory for the first 45 patients, later a criterion for fast tracking of pt’s and 6-18 Hr. Day case surgery protocol was implemented. Most of the patients are ASA 1-2, 38% had severe GERD symptoms severe enough to affect their lifestyle. More than 40% of our pt’s has significant extra GI manifestation of GERD, Bronchial Asthma was the most common. 40 cases were done as robotic Procedure, with 1 case of conversion to open 98% of pts had minimal blood loss. less than 9% of patients were admitted more than 24-hour post-op for different reasons, all discharged uneventfully Complication rate was around 6% Mortality was 0%.

Conclusion: Robotic / laparoscopic fundoplication has excellent outcome and safety when done as a day surgery. Admission of patients and post-op swallowing study, doesn't improve the outcome and is not cost effective. Patient safety, outcome and satisfaction may be even better if they had the operation as a day surgery procedure. Day surgery esophageal procedure such as hiatal hernia, achalasia can be done as day surgery.
Do filters and pose in selfies have an effect on cosmetic procedures

Mohammed Alkarzae  
King Saud University, Saudi Arabia

Background: The perceptions of beauty have changed, and technology has supported that by creating applications that alter photos to meet the ideal beauty standards. The wide availability of photo-editing tools can do more harm than good since it has been observed by plastic surgeons who have seen patients requesting to look like their filtered pictures.

Objectives: The aim of this study was to assess the effect of filtered selfies and posing preferences on seeking cosmetic surgery in Saudi Arabia.

Methods: An online questionnaire was distributed randomly among 653 participants in Saudi Arabia between May and July 2018. The survey included questions about demographics, the use of social media, selfie habits, using filters, previous cosmetic procedures and their relations to selfies.

Results: Most of our participants were females (74.9%), singles (59.7%), Bachelor’s degree holders (71%), with a monthly income of less than 5,000 SR (60%). Social media was used by 98.3%, and selfies were taken by 93.4%, with the frontal view being preferred by 58% of them. 37.8% of those who took selfies wanted to have a cosmetic procedure because of selfies, with 85% of them being females and 60% of them using filters. \((r=21.149, p<0.001)\). 53% of subjects who wanted to do cosmetic surgery, preferred the frontal view \((r=6.627, p=0.010)\). The decision to do a cosmetic procedure was significantly correlated to frontal view selfies.

Conclusion: Our study suggests that seeking cosmetic surgery in our country is linked to the use of filters and posing preferences.