E-cigarette associated burns: a case series of patients treated at a regional burns unit

Mr Adeyinka Molajo, Dr Bismark Adjei, Mr Zeeshan Sheikh
Manchester

Introduction

The popularity of electronic cigarettes has increased massively. Unfortunately there has also been a significant increase in the number of burns associated with malfunctioning units and batteries.

Method

We present a case series of patients presenting to the regional burns unit over a four week period. A total of seven patients presented to the burns unit for treatment during the study period.
The patient demographics were recorded along with burn information (type of burn- chemical or thermal or mixed)
Treatment provided as well as time to heal and return to work recorded
The type of electronic cigarette involved was recorded.

Results

Seven patients were included in the study (six male and one female)
Average age 27.8 years (range 16-47)
Average TBSA 1.8% (range 1-3%)
Depth of burn: 58% superfical partial thickness, 14% deep dermal, 14% full thickness 14% mixed depth
Primary site of burn: 57% lower limb, 29% hand and digits 14% upper limb
Type of burn: 86% flame, 14% chemical/flame
First Aid: 71% NO 14% Yes 14% unknown
Treatment: 14% debridement and SSG, 86% conservative management
Average time to healing: 28.4 days (range 14-44)

Conclusion

Electronic cigarettes are presented as a 'safer' option to conventional cigarettes and have been embraced by many. This case series presented reveals an unexpected injury pattern that burn surgeons did not predict before the widespread adoption of the new technology. In just four weeks seven patients presented to the burns service requiring treatment. On closer questioning it appears that 58% of burns were attributed to the same brand of electronic cigarette. Knowledge of burn patterns may be used to educate users to avoid risk of burns in the future.

Improving the provision of orthoplastic lower limb reconstruction in a multi-site major trauma system: lessons on implementing change following four years of audit

Dr Bismark Adjei, Mr James David Bedford, Mr Jason Wong
Manchester

Introduction

Despite evidence-based guidelines from NICE and BOA/BAPRAS for open tibial fractures, ensuring the delivery of such a service in a large city with multiple trauma centres is a logistical problem.
From2009 to 2011 at our supra-regional Plastic Surgery service (University Hospital of South Manchester), we found that mean time to Plastic Surgery referral from peripheral hospitals was 24 hours; transfer time was four days, and time to soft tissue cover was 12 days.
To reduce these delays our service developed:
(1) An ED to ED transfer protocol
(2) Better relationships with orthopaedics including an orthoplastic MDT
(3) Better access to orthoplastic trauma theatre
(4) A structured email referral system.

Methods

Two subsequent retrospective case note audits based on the BOA/BAPRAS guidelines included patients presenting locally or referred from around the region, identified using the national TARN database, from Jan 2012 - May 2014 **(Audit 1)** and Jun 2014 - Oct 2015 **(Audit 2)**.

Results

	N	Mean age [range]	Mean hours to soft tissue cover [range]	% covered by 72h	% covered by 7d
Audit 1	50	49 [12–99]	182 [6–847]	30	60
Audit 2	45	47 [11–92]	82 [4–336]*	58	84

* significant difference, p = 0.012.

Conclusion

The orthoplastic limb reconstruction service has been improved in our region in the lastsix years due to actively managing closer collaboration between orthopaedics and plastics, including a dedicated MDT, a better referral system, and improved access to theatres. More progress is needed, and we discuss the ongoing improvement process.

Patient satisfaction survey of a regional paediatric hypospadias service

Mr Ahmed Al-Mousawi, Ms Ann Gardiner, Mr Devvrat Katechia, Dr Ranj Khaffaf, Dr Salahuddin Qureshi, Mr Chellaya Ramanathan, Mr Haroon Siddiqui
Middlesbrough

Introduction and Aims
Our department provides a regional service for the correction of hypospadias including salvage repair, as well as other penile conditions such as buried penis. As part of our focus on continual service improvement and development, we conducted a survey of patients recently treated for hypospadias.

Materials and Methods
A 21-question postal survey was sent to 100 recently treated consecutive patients. This included questions on age of diagnosis, method of referral, information received prior to attendance and specialist information provided. It also included questions on patient experience during outpatient attendance as well as the inpatient and peri-operative stage. Multiple sections included space for free text comments and suggestions.

Key Results
There was a 50% response rate (n=50). Most questionnaires were completed by a parent of the patient. Satisfaction levels at all stages of treatment were generally high including facilities, information provided pre and post-op and follow-up care. A majority of parents felt that the formation of a support group would be useful. Comments section provided an opportunity to solicit suggestions and criticisms as well as positive feedback.

Conclusions
The survey provided a valuable opportunity to receive both positive and negative feedback on the service we provide and to target areas for further improvement and development. It also presented a clearer picture of the patient and parent journey at different phases and the challenges of optimising all aspects of multi-disciplinary hypospadias care.

Does slow-release tourniquet cause less pins and needles when compared to the commonly used fast-release type in upper limb surgery?

Mr Ammar Allouni, Miss Lauren Taylor, Miss Ros Harper
Sheffield

Introduction and Aims
Modern pneumatic tourniquets are routinely used in upper limb surgery to create a bloodless field. Reperfusion syndrome, caused by re-establishment of blood flow after tourniquet deflation, induces paradoxical extension of ischaemic effect mediated by oxygen free radicals. This is manifested by the pins and needles felt by patients at the end of the procedure. We performed this study to compare the pins and needles caused by two types of tourniquets, slow-release and fast-release tourniquets.

Material and Methods
The study was conducted on 20 volunteers with the total of 40 upper limbs. Fast-release and slow-release tourniquets were tested to determine the difference in the reperfusion symptoms of pins and needles in all the volunteers.

A visual analogue score was used to assess the pins and needles felt by the volunteers after release of tourniquet. We looked at the time of onset and period of symptoms until full recovery. We also asked about the point of maximum discomfort. Demographic data, PMH and history of smoking were also recorded.

Key results with supporting statistical analysis
Visual analogue scores were in the range of four to eight (mean=3.2) and one to six (mean=5.8) for fast-release and low-release tourniquets respectively. The duration of pins and needles symptoms following the use of slow-release tourniquet was significantly shorter when compared to the duration of symptoms when using the fast-release type.

Conclusion
With the improvement of knowledge and technology, complications should be reduced to the minimum possible to improve patients' care and satisfaction. We recommend the use of slow-release tourniquets in upper limb surgery to minimise the complications and discomfort associated with tourniquet usage.

The use of venous coupler devices in breast free flap surgery: a systematic review with meta-analysis component

Mr Zeeshaan Arshad, Mr Jack Jameson , Mr Rajan Choudhary, Mr James Smith, Dr Fulvio Urso-Baiarda, Dr Olivier A Branford, Dr David Brindley, Dr Benjamin Davies, Dr Katrina Witt, Dr David Pettitt
St. Andrews

Background
Venous coupler devices are often employed in free flap surgery as they are thought to increase the speed of venous anastomosis and reduce the rate of potential complications including thrombosis and flap failure.

Methods
Key electronic databases were searched according to PRISMA guidelines. Two independent reviewers examined the retrieved publications and performed data extraction. STATA software (v14.0) was used to perform data analysis, employing a random effects model.

Results
Searching returned eight studies. This represented a total of 2296 flaps, 786 of which were included in the meta-analysis. The TRAM flap was the most commonly performed flap (1027 cases) and the internal mammary artery was the most commonly employed vessel (used in 79% of cases). The 3.0mm coupler size was used in 56% of cases. Our analysis found that when using a venous coupler, the reduction in the

risk of thrombosis, and any complication occurring was reduced by 68% (95 CI 85% - 33%) and 65% (95% CI 80% - 38%), respectively. The use of a venous coupler device does not demonstrate a statistically significant reduction in flap loss (OR 0.93 95% CI 0.14 - 6.23), or in the occurrence of venous insufficiency (OR 0.46 95% CI 0.16 - 1.31)

Conclusions

Venous coupler devices reduce the rate of thrombosis but do not have a statistically significant effect on preventing flap loss. More rigorously designed studies are required that standardise reporting of key outcome measures relating to coupler size, flap type and vessel utilisation. Comprehensive patient demographic data should also be incorporated to facilitate the stratification of coupler devices to certain patient groups. This will enhance both clinical and healthcare provider decision-making.

Non-invasive aesthetic treatments are they safe in unregulated environments? A case report of frostbite following cryolipolysis treatment in a beauty salon

Miss Wen Ling Choong, Mrs Helen Wohlgemut, Mr Marc-James Hallam
Aberdeen

Introduction

We present a previously unreported complication following cryolipolysis treatment: frostbite, resulting in substantial necrosis of the flank. We also highlight the clinical applications and adverse effects related to cryolipolysis. In addition, the pathogenesis, clinical manifestations and management of this injury. This case highlights the necessity of regulation within the cosmetic sector, and the challenges associated with its implementation, relating to the government's response on the Regulation of Cosmetic Interventions Review, and resultant RCS guidelines.

Case presentation

A 53-year-old female presented with frostbite of her left flank following cryolipolysis treatment in a beauty salon. Medical attention was not sought by the patient until one week post-treatment. Examination revealed two distinct areas of significant frostbite in the left flank with surrounding erythema. Both wounds measured 5 x 7 cm, were oozing serous fluid, and exhibited a central patch of necrosis. According to current clinical guidelines relating to the management of frostbite, no immediate surgical intervention was sought and the patient was managed conservatively, on an outpatient basis.

Conclusion

No previous cases of significant injuries following cryolipolysis have been described in the literature. Emphasis must be placed on increasing patient awareness on the potential hazards of seeking cosmetic treatment from unregulated providers. This case report also highlights the importance of implementing a robust mechanism for reporting adverse outcomes, as suggested in the RCS guidelines.

Hand trauma clinic audit: are services being utilised effectively?

Dr Kiran Dhaliwal, Mr Matthew Pywell, Miss Kate Spiteri, Ms Sonja Cerovac
London

Introduction and Aim
Hand injuries account for 20% of all presentations to Accident and Emergency and there is subsequent is a high demand for Hand Trauma Clinic appointments. An efficient service is vital to reduce delays in patients being seen in clinic and preventing adverse outcomes.
The aim of the study was to investigate whether hand trauma clinic services were being utilised effectively for patients who had operative interventions.

Methods
Data was collected retrospectively, for a three month period, using patient records and imaging. Information was collected on the type of injury, the intervention, total length of follow up, numberof clinic appointments (including consultant and hand therapy) and the frequency of appointments.

Results
One hundred and eighty nine patients presented to clinic during this period. We found that patients treated with K wires had longer mean follow up times: 109.8 days for K Wire compared to 83.3 days for ORIF. However, they both had a similar mean number of consultant appointments; 3.93 days for K Wire compared to 3.61 days for ORIF. Patients who had K Wire fixation had six appointments on average, over 27 weeks. In comparison, patients who had ORIF had four appointments over 18 weeks (4.5weeks per appointment). The average cost of treating a patient (including theatre and clinic appointments) who had an ORIF was £4323 (£56,203 total spend). In comparison, the average cost for patients having K wires was £2770 per patient (£83,121 total spend).

Conclusion
Operative hand trauma patients are followed up for too long and are seen in consultant clinic too frequently. Having a more streamlined follow up pathway, with fewer follow up and consultant appointments would reduce the cost and reduce the stain on hand clinic services.

External ear melanoma: a ten year assessment of adverse features and outcomes

Mr Jonathan Dunne, Mr Jonathan Frost, Professor Barry Powell
Blantyre, Malawi

Introduction and Aims
External ear melanoma is an uncommon tumour, with conflicting opinion regarding prognosis. Thin skin and an unpredictable lymphatic drainage make it a unique site, and data on optimal management and outcomes is limited.
Our aim was to analyse prognostic factors and survival.

Material and Methods
A 10 year (2006-15) analysis of external ear melanoma was performed.

Results
Forty five cases of external ear melanoma were identified from 2241 referrals (2%), with a higher median age (63 vs 59; P=0.02), and male predominance (P<0.001). Superficial spreading melanoma less commonly affected the ear (49% vs 72%; P=0.002), however nodular melanoma was more common (36% vs 18%; P=0.008).

Median Breslow thickness (BT) was similar (1.8mm vs 1.2mm; P=0.46), as was presence of ulceration (P=0.77). 67% had sentinel node biopsy (SNB) compared to 50% in the general cohort (P<0.001), and fewer were positive (7% vs 19%; P=0.08). 80% were alive at time of analysis compared to 84% in the general cohort (P=0.41).

Nine patients (20%) developed stage III/IV disease, with a trend towards thicker lesions (2.3mm vs 1.7mm; P=0.16), with ulceration (57% vs 16%; P=0.11), of a nodular type (57% vs 33%; P=0.26).Three patients had SNB; two were positive and had completion lymphadenectomy. two patients developed regional disease, and two presented with distant metastases. 56% with stage III/IV disease are alive compared to 84% with stage I/II disease (P=0.06).

Conclusions
Our experience with external ear melanoma is of nodular lesions in older male patients, with a low rate of SNB positivity. Increasing BT and ulceration may worsen prognosis. We recommend full thickness excision with standard margins, which can lead to outcomes comparable to melanoma at other sites.

Extension deficit after flexor tendon repair: a correlation study and an audit of outcome

Dr Edmund Farrar, Dr George Filobbos, Mr Garth Titley
Birmingham

Introduction and Aims
A key clinical concern in early postoperative follow-up of flexor tendon repair is extension deficit at level of DIPJ, PIPJ and MCPJ. To the best of our knowledge, there are no studies in literature examining the extension deficit at individual joints after flexor tendon repair and correlating it with the final outcome. The aim of this work is to study the correlation between extension deficit at individual joints (e.g. DIPJ, PIPJ or MCPJ) at six, nine and 12 weeks.

Materials and Methods
We included patients with isolated flexor tendon injury (zones one, two & three) or flexor and digital nerve. Only patients that attended all follow up appointments with hand therapy were included. Extension deficit at DIPJ, PIPJ and MCPJ was measured at six, nine and 12 weeks. A total of fully compliant 17 patients were included.

Results
There was significant correlation between MCPJ extension deficit at six and 12 weeks (r=0.9, p< 0.00001). There was significant correlation between PIPJ deficit a tnine weeks and 12 weeks (r = 0.6, p= 0.00456). Out of 12 patients that had PIPJ extension deficit at six weeks, only five had residual deficit at 12 weeks (i.e. 58% of patients showed improvement). Out of six patients that had MCPJ extension deficit at six weeks, four had residual deficit at 12 weeks (i.e. only 33% showed improvement).

Conclusion
Extension deficit at DIPJ and PIPJ showed better improvement than MCPJ. The MCPJ extension deficit may not be as forgiving as we think in flexor tendon repair.

Outcomes and demographics in reduction mammaplasty: a single centre, two-year experience with comparison to BAPRAS guidelines for the commissioning of plastic surgery services

Mr Samuel George, Dr Asia Joseph, Mr Ommen Koshy
Liverpool

Introduction
Reduction mammaplasty is commonly performed on the National Health Service (NHS) for the treatment of symptomatic macromastia. There are various techniques and we discuss our outcomes with regards to complications as well as compliance with commissioning criteria.

Methods
A retrospective review of patients undergoing reduction mammaplasty in our institution between January 2014 and January 2016 was performed. Data was collected from online patient records and analysed with regards to patient demographics, indications, pedicle selection, use of drains, reduction weight, length of stay and complications.

Results
The review identified 136 patients, 98 of which were bilateral. The average age was 39 (range 16 – 70) and seven patients were smokers. Mean length of stay was 2.6 days (range 1 – 8) and mean BMI was 26.3 (range 19 – 42, 8 (6%) BMI ›30). Only 99 patients (72.7%) had documentation of indications such as back, shoulder or neck pain, intertrigo, asymmetry or psychological issues. The most common pedicles used were superomedial (30%), superior (19%) and inferior (18%). The mean reduction weight per breast was 447.8g (range 65 – 1345g). Ninety-eight patients had drains (72%) and complications included haematoma (7%), infection (5%), wound dehiscence (4%), and three cases (2%) of Nipple Areolar Complex necrosis which were partial and treated conservatively.

Conclusions
Regardless of the technique and pedicle used, reduction mammaplasty can be safely performed with low complication rates however compliance with national guidelines as a procedure of limited clinical

priority is low and as criteria become more stringent with lack of funding we anticipate the number performed on the NHS will continue to decrease.

Total sacral reconstruction with hinged free fibula flap

Dr Andrew Hadj, Dr Michael Wagels
Brisbane, Australia

Background
Total sacral onco-ablative defects present unique reconstructive challenges. Chordoma, chondrosarcoma and giant cell-tumours are common aggressive pathologies associated with sacro-pelvic disease. Varied reconstructive efforts using loco-regional, alloplastic and free-tissue transfer techniques have been described, including the free fibula flap[1]. The aim of this study was to assess the reliability of the free fibula flap for sacral reconstruction and compare the outcomes of other loco-regional options at a single institution.

Methods
Retrospective analysis of total sacral defects from 1996 to 2016 was undertaken including the newer technique of free-fibula bone reconstruction. Demographic data was obtained from patient records, including flap selection, defect size and complications. Median follow up was 56 months.

Results
A total of 17 patients; 15 loco-regional flaps and two free-fibula flap reconstructions were undertaken. Average tumour size was 996cm^3, with a total complication rate of 43.7%. Independent gait at six months was 68.8%.

Conclusion
The hinged free fibula flap for total sacral reconstruction is a reliable and robust reconstructive technique. The study describes a surgical algorithm for total sacral reconstruction.

References
1: Choudry et al: Functional reconstruction of the pelvic ring with simultaneous bilateral free fibula flaps following total sacral resection; Annal Plas. Surg; 57: 673-676 2006.

The medial femoral condylar free flap: a novel utility in head and neck reconstruction

Dr Andrew Hadj, Dr Matthew Cheng, Dr Michael Wagels
Brisbane, Australia

Purpose
Composite head and neck onco-ablative defects present unique challenges to the reconstructive surgeon. Skeletal support, soft tissue coverage and lining are all critical components of reconstruction[1]. Medium sized bone defects can be reconstructed with established techniques (bone graft, fibula flap, iliac crest flap) however these donor sites remain the gold standard for large, segmental defects and are useful in managing recurrent disease. We present our early experience with the medial femoral condyle (MFC) flap[2] to reconstruct a range of medium sized composite bony defects.

Methodology
MFC free flaps were identified from the P&RS database at a Queensland tertiary hospital. A retrospective review and analysis of prospectively collected data was undertaken. MFCs were raised on the descending genicular artery, from which unicortical femoral bone was harvested.

Results
MFCs were performed in three cases; two anterior maxillary defects and one mandibular defect. Bone defects ranged from 16x13mm to 60x65mm with an average size of 52x39mm. Osseofasciocutanous flaps were used in two cases, and an osseomyocutaneous flap in one case.one patient suffered post-operative haematoma at the inset site (requiring return to theatre). There were no free flap failures or significant donor site morbidity.

Conclusions
We find the MFC a versatile chimeric flap for the management of bony defects in head and neck reconstruction. The donor site morbidity and complication profile associated with the use of the MFC flap is in keeping with other bone free flaps.

References
1: Hanasono M et al: Important aspects of head and neck reconstruction; Dec 2014 PRS; CME article
2: Sakai K et al: Free vascularised thin corticoperiosteal graft; PRS 1991; 87: 290-298

Complications from electronic cigarettes: experience of a burns centre

Miss Sameena Hassan, Mr Mohammed Anwar, Ms Preetha Muthayya, Ms Sharmila Jivan
Wakefield

Introduction and Aims
Since 2009, 25 separate incidents of fires resulting from e-cigarettes have been reported in the US media resulting in several burn injuries , whilst similar reports in the British media are starting to

emerge leading several manufacturers to warn users that lithium ion batteries can overheat and explode resulting in injury.
We present our experience of injuries sustained from the use of e-cigarettes.

Materials and Methods
Patients presenting to a regional Burns unit with injuries sustained from the use of e cigarettes over a period of five months are presented. Patient consent to publication of all images presented was sought and gained.

Key Results
Six cases are discussed. All patients were male in gender and were regular users of electronic cigarettes. In four cases the injuries arose from the spontaneous ignition of a battery kept separate from the main unit and stored in a trouser pocket in contact with other metal objects. The burns had mixed chemical and flash components, with the flash element causing subcutaneous cavities heavily contaminated with debris in three cases. The total body surface area of burn ranged from 1.5% to 5%. Four patients required operative intervention, one underwent immediate skin grafting. Three of the burns healed without complications, two remain under follow up. There were no mortalities in this group of patients.

Conclusion
We discuss current legislation around the sale of electronic cigarettes, highlight these cases as a potential area of education on burn prevention, re-iterate warnings of storing lithium ion batteries next to metal objects and encourage users to disconnect the heating element from the e-cigarette battery when not in use to prevent accidental injury.

Combined surgical and medical treatment of extensive cutaneous metastatic Crohn's disease: case report

Miss Noemi Kelemen, Mr Andrew Morritt
Sheffield

Introduction
Metastatic cutaneous Crohn’s disease (MCCD) is a rare complication of Crohn’s disease (CD) characterised by cutaneous granulomatous lesions distant from the bowels.

Case report
A 37-year-old male with extensive CD perineal fistulae and MCCD affecting the natal cleft, scrotum and inguinal creases underwent panproctocolectomy and wide debridement of all disease followed by one month of VAC therapy. The extensive defect was closed with a combination of bilateral gluteal advancement flaps, bilateral pedicled gracilis flaps, scrotal advancement and direct closure of the inguinal crease defects. All wounds healed within three weeks but a week later superficial dehiscence at the gluteal flap junction and sloughy patches were seen on the gracilis flaps. Attempts to heal the wounds with conservative measures failed.

Biopsies confirmed MCCD and Adalimumab and Methotrexate treatment were commenced and the wounds healed with regular dressings by 10 months post op.

Discussion and Conclusion

MCCD is a rare complication of CD with only six reports in the literature. The median age affected is 36 years and male to female distribution is 5:2. Only one case to date healed with medical treatment and all other cases required surgical debridement with three cases needing reconstructive surgery. Once healed no patients had relapses. In contrast to the reported cases our patient had much more extensive and aggressive disease with recurrence occurring within one week of healing. This is also the first report of combining Adalimumab therapy (Humira ®) which is a TNFα inhibiting immunosuppressant with flap reconstruction to obtain healing in MCCD.

Splinting technique for venous anastomosis in lower limb free flap reconstruction

Mr Haitham Khashaba, Mr Muhammad Khadim, Mr Thomas Chapman
Bristol

Lower limb reconstruction of the distal third following tumour extirpation or trauma is a complex procedure. The use of free flaps to cover lower limb defects is a common practice in our department, with an average pedicle length of 8-10 cm and vessel diameter of 1-2mm. Due to the superficial nature of the recipient vessels at this level, often not much pedicle length (about 4-5cm) is required, however shortening the pedicle can reduce the vessel diameter significantly. Preserving extra length, however, leaves a tortuous loop with risk of kinking or compression of the vein.

Vascular kinking or compression resulting in thrombosis is the leading cause for venous congestion and flap failure. We present a novel technique of splinting the venous anastomosis using its arterial counterpart to keep it patent and avoiding kinking.

Concordance between indocyanine green and 99m technitium in the identification of sentinel lymph nodes in melanoma

Dr Stephanie Koonce, Dr Martin Newman
Weston, USA

Introduction

Sentinel lymph node (SLN) biopsy is a widely accepted staging procedure for melanoma. Radiocolloid (99mTc) in combination with a variety of blue dyes is the most commonly used technique for SLN identification. Substitution of indocyanine green dye (ICG) for blue dye has been reported with equal or superior results. The purpose of this investigation is to examine our institution's and the literature's collective experience in this respect.

Methods
A systematic review of the literature was performed identifying peer reviewed articles which examined the concordance between 99mTc and ICG in the identification of SLNs in individuals undergoing SLN biopsy for melanoma was performed. The concordance between SLNs identified using 99mTc and ICG at our institution was also examined. Patients identified with cutaneous melanoma underwent SNL mapping using standard of care 99mTC. Concurrently, ICG was administered and SLN were mapped using a fluorescence imaging system. All positive nodes using both 99mTc and ICG were removed and compared for concordance.

Results
Twelve peer-reviewed studies including a total of 391 patients comparing 99mT alone with ICG in SNL mapping in cutaneous melanoma were analysed. The average nodal yield was 2.09 nodes per patient and the reported concordance between the two techniques was 99%. The concordance in our practice was 100%.

Conclusion
The use of ICG has shown very high levels of concordance with 99mTc alone. ICG may obviate 99mTc completely in cases when target node(s) are located in known basins.

Utilisation of computer assisted design/computer aided manufacturing technique in complex free fibula mandibular reconstruction

Dr Stephanie Koonce, Mr David Grant, Dr Michael Medina, Dr Miguel Medina
Weston, USA

Introduction
Complex head and neck reconstructive surgery has evolved with the introduction of computer-assisted design/computer aided manufacturing (CAD/CAM) for surgical planning. We review our single institution's evolution with the use of CAD/CAM in free osteocutaneous fibula flaps for mandibular reconstruction utilising pre-contoured titanium plates and CAD/CAM cutting guides.

Methods
Between 2014 and 2016, a total of four CAD/CAM free osteocutaneous fibula flaps and two standard free fibula flaps were used for five patients' mandibular reconstruction. In the CAD/CAM cohort, patient's lower extremity vasculature was evaluated by pre-operative computed tomography (CT). Inclusion criteria were large mandibular defects due to malignant or benign tumours. Operative time, ischemia time, complications, and outcomes of both cohorts were analyzed. Post-operative CT was used to compare the surgical outcome with virtual plan.

Results
All flaps were harvested and inset successfully with no intraoperative complications. All flaps in both the CAD/CAM and standard cohort survived with a mean follow up time of 10 months. Mean operative time

was 552 and 742 minutes respectively (p=0.08). Postoperative imaging corresponded closely with virtual plan.

Conclusions

CAD/CAM free osteocutaneous fibula mandibular reconstruction is particularly beneficial when two or more osteotomies are required in complex defects. Pre-contouring the plate may allow for improved dental rehabilitation and maintenance of native occlusion. Virtual surgical planning may be used to minimise operative time and maximise surgical outcomes.

Bowtie technique: a novel approach to correct the widened ventral labia majora after male-to-female gender reassignment surgery

Dr Derek Liang, Dr Joseph Dusseldorp, Dr Constant van Schalkwyk, Professor Peter Haertsch
Concord, Australia

Male-to-female gender reassignment surgery is a procedure that has evolved significantly since its inception. To create an aesthetic and functional vagina is the primary focus. Despite its evolutions, second stage revisions are frequently utilised to correct labial and clitoral hood defects (e.g. loss of clitoral hood, widening of the ventral labia major and exposure of the anterior commissure). Our objective is to present a simple and effective surgical step in the male to female gender reassignment operation in order to reduce the need for second stage interventions. The Bowtie technique is performed as the last step to the male to female gender reassignment procedure and aims to emphasise the clitoral hood, reduce the space of the ventral labia major and diminish the exposure of the anterior commissure. Having been performed by the senior author since 1992, outcomes have been satisfactory with no need for secondary procedures in those patients for the described defects. The Bowtie technique is a beneficial addition in male-to-female reconstructive surgery, which allows for the procedure to be performed in one stage without the need to correct common post-operative aesthetic defects.

Episomal induced pluripotent stem cells promote functional recovery of transected murine peripheral nerve

Mr Charles Yuen Yung Loh, Dr Aline Yen Ling Wang, Mr Sheng-Hao Chuang, Professor Fu-Chan Wei
Taiwan

Introduction

Traumatic peripheral nerve neurotmesis occurs frequently and functional recovery is often slow and impaired. Improved nerve recovery is also crucial in enhancing Vascularized Composite Allotransplantation outcomes. Induced pluripotent stem cells (iPSC) have shown much promise in recent years due to its regenerative properties similar to that of embryonic stem cells. However, the potential of iPSC in promoting the functional recovery of a transected peripheral nerve is largely unknown. This

study is the first to investigate *in vivo* effects of episomal iPSCs on peripheral nerve regeneration in a murine sciatic nerve transection model.

Materials & Methods
Episomal iPSCs refer to iPSCs that are generated via Oct3/4-Klf4-Sox2 plasmid reprogramming instead of the conventional viral insertion techniques. It represents a relatively safer form of iPSC production without permanent transgene integration which may raise questions regarding risks of genomic mutation. A minimal number of episomal iPSCs were added directly to the transected nerve.

Results
Functional recovery of the episomal iPSC group was significantly improved compared to the control group when assessed via serial five-toe spread measurement and gait analysis of ankle angles. Episomal iPSC promotion of nerve regeneration was also evident on stereographic analysis of axon density, myelin thickness and axonal cross sectional surface area. Most importantly, the results observed in episomal iPSCs are similar to that of the embryonic stem cell group.

Conclusion
We have shown that functional recovery of the transected peripheral nerve can be improved with the use of episomal iPSC therapy, which holds promise for the future of nerve regeneration.

Use of a modified forehead flap for reconstruction of sinonasal fistulae

Mr Christopher Lutterodt, Miss Stephanie Hili, Mr Niall Kirkpatrick
London

Introduction
Excision of tumours of the orbit, ethmoidal and anterior skull base region with post-operative radiotherapy can lead to wound breakdownand development of sinonasal cutaneous fistulae. Common methods of reconstruction are associated with high rates of recurrence. We describe here a novel approach to manage medial canthus sinonasal fistulae utilising an interpolated forehead flap combined with extended galeafrontalis and pericranial flap for stepped closure.

Methods
The senior authors technique of flap elevation and inset is discussed, with emphasis on key manoeuvres to prevent sinus recurrence. A retrospective review of eight consecutive cases successfully managed with this approach is presented.

Results
Eight patients were treated over 24 months. Mean age 52 (40-71 years). In all cases, the fistulae had developed following adjuvant radiotherapy for tumour resection. All tumours were SCC except one which was an adenocarcinoma, and all were located in the ethmoid sinus/orbital regions. Flap elevation was performed in combination with a bicoronal approach in One patient and via direct forehead approach in four patients. Two patients (25%) had had failed initial reconstructions. All flaps healed with no

recurrence of fistula over the follow-up period which ranged from two years for the first patient treated to three months for the most recent case.

Conclusion
The success of this technique is attributed to inclusion of a galeafrontalis and pericranial extension to the forehead flap. In addition, the fistula site must be prepared to accommodate the flap by dissection of a wide subcutaneous pocket. This stepped method of closure provides an effective barrier to air and nasal secretions and also achieves an excellent aesthetic outcome.

Hypospadias: The true cost of dressings following hypospadias repair

Mr Christopher Lutterodt, Mrs Anastasia Mentesidou, Mrs Diane De Caluwe, Mrs Nisha Rahmen, MIss Marie-Klareis Farrugia
London

Introduction
The ideal dressing post-hypospadias repair should be soft and compressible, economical, quick to apply yet challenging for the child to pull off, and easy to remove once it's not required. In our centre, we currently use: a simple gauze and Elastoplast dressing and Cavicare® (Smith&Nephew) dressing. The aim of our study was to compare the cost and effectiveness.

Patients and Methods
A prospective study was conducted (2015-2016) with 45 patients. Repairs included: single-stage repairs for distal hypospadias, and two-stage repairs with inner preputial or buccal grafts for proximal or redo-hypospadias repairs. Dressing selection was according to surgeon preference. Dressings were removed Day seven. Parents completed a questionnaire regarding: pain, analgesic requirement and dressing complications. A standardised pain score (1-10) was used. Cost of the dressing components was obtained from hospital stockists.

Results
Cavicare® and gauze dressings cost £38.06 and £10.41 respectively. Median age at surgery was 13 months (9-120 months). Questionnaire response rate was 40/45 (90%). Ten patients had a gauze dressing and 35 Cavicare® dressing. Median pain score Dayone was 5/10 for gauze and 6/10 for Cavicare® (p=0.125). Median pain score Dayseven was 2.2/10 for gauze and 2.42/10 for Cavicare® (p=0.722). Pain relief duration was 4.84 days in the gauze group and 4.8 days for Cavicare®.

Conclusion
Although the cost of Cavicare® was 4.2x that of the gauze-based dressing, there was no statistical difference in post-operative pain scares or analgesic requirements Dayone or seven. Complications were comparable, although a limitation of our study was the fact that all complex repairs had a Cavicare® dressing.

Eight-month analysis of the efficiency of a burns theatre: recommendations for improvement

Mr Christopher Lutterodt, Mr Arvind Mohan, Mr Jorge Leon-Villapalos
London

Background
The efficient use of operating theatres is important to ensure optimum cost-benefit for the hospital. We used the emergency Burns theatre as a model to assess theatre efficiency at our institution.

Methods
Data was collected retrospectively on every operation performed in the Burns theatre between 01/04/15 and 30/11/15. Each component of the operating theatre process was considered and integrated to calculate values for surgical/anaesthetic time, changeover time and ultimately theatre efficiency.

Results
A total of 426 operations were carried out over 887 hours of allocated theatre time (ATT). Actual operating time represented 67.7%, anaesthetic time 8.8% and changeover time 14.2% of ATT. The average changeover time between patients was 30.1 minutes. Lists started on average 27.7 minutes late each day. There were a total of 5.8 hours of overruns and 9.6 hours of no useful activity. Operating theatre efficiency was 69.3% for the eight month period.

Conclusion
Our study has highlighted areas where theatre efficiency can be improved. We have been able to suggest various strategies to improve this that may be applied universally.

Cadaveric assessment of the transverse thoracis muscle and its impact on free tissue transfer in aesthetic and reconstructive breast surgery

Mr William Nabulyato, Dr Niroshan Kumar, Mr Ahmed Elfaki, Miss Monika Fawzy, Mr Joe Perfitt, Mrs Maria Wright, Dr Helen Taylor, Dr Cecilia Brasset, Mr Michael Irwin
Cambridge

Introduction
The transversus thoracis muscle (TTM) is a thin plain of fibres arising from the lower half of the sternum and inserting into the inner surfaces of the 2nd to 6th costal cartilages. Its surgical significance should not be underestimated given its relation to the internal thoracic vessels (ITV), which are crucial for vascular anatomises of free tissues in reconstructive and aesthetic breast surgery. Our aim was to examine the geometry & variability of the muscle in lieu of its poor description within surgical literature. Furthermore, our recent intra-operative experience of a significantly hypertrophied TTM & subsequent difficulty in locating the internal thoracic vessels was catalyst to the study.

Method
Forty one fresh cadaveric specimens were examined. Specimens with significant disruption to the anterior thoracic wall secondary to in vivo thoracic procedures or dissection process were excluded. Length, width, angulation, origin and insertion distances of the muscle & its relation to the ITV were assessed to triangulate structures relative to the midline. Height, ethnicity, age and gender were accounted to yield generalisable data.

Results
We report an average angle:length:width:ITV intersection:abscence rate of (49.3o fibromuscular junction-FMJ & 53%) and (48.6o :65mm:13.8mm:56% FMJ & 17%) of the 2nd and 3rd TTM.

Conclusion
This study provides detailed information on the variety of the transversus thoracic muscle at the second and third costal cartilages. To our knowledge this is the first study to assess the muscles variable size, orientation, location and muscle-arterial relation. An appreciation of which is integral to pre and intraoperative planning within reconstructive Plastic Surgery.

A case of florid necrobiosis lipoidica in a non-diabetic secondary to red pigment of a tattoo

Mr Tom Paterson, Miss Stephanie Hili, Mr Mansoor Khan
Salisbury

Introduction
Necrobiosis lipoidica (NL) is a rare inflammatory granulomatous skin disease. We present the first case of true NL arising from red tattoo pigment in a non-diabetic and discuss the current literature and treatment options.

Case presentation
A 48 year old man presented with a nine month history of painful, non-healing ulcer at the site of a recent tattoo on the ankle. Only the skin with red ink had been involved. He was otherwise well and had no problems at other tattoo sites. Excision of the lesion and split-thickness skin grafting was undertaken with complete healing. Formal histopathological analysis revealed florid NL secondary to the red tattoo pigment.

Discussion
NL is a very unusual disease, often characterised by reddish-brown or yellowish papules/ plaques, usually on the lower limbs of diabetic middle-aged adults. Only two previous cases have been described of NL arising at a tattoo site in a non-diabetic.
Mainstay treatment of NL involves early topical glucocorticoids or intralesional steroids when topical therapies fail. Surgical excision ± skin grafting is the only real cure for ulcerating NL.

With a history of rapid growth and keratotic appearance, squamous cell carcinoma (SCC) was a likely differential of this lesion. In this case, excision and grafting would have been the treatment of choice for an SCC or NL. In the frailer patient however, awareness of a potentially non-malignant lesion, might shift treatment to a more conservative one.

Conclusion
We believe this to be the first case of true NL in a non-diabetic arising from red pigment of a tattoo. The role of surgical excision and grafting in this rare condition is a favourable option with a good outcome when conservative therapies have been exhausted.

Lower limb salvage using dermal substitute following extensive soft tissue loss: a case report

Mr Nicholas Rabey, Mr Eunan Tiernan
Salisbury

Objective
Extensive soft tissue loss of the lower limb following infection, trauma or severe burns can be difficult to manage in patients who are not suitable for free flap or pedicled reconstruction. We show that dermal substitute may be a useful treatment alternative.

Case
A 70 year-old patient with BMI 40, diabetes and hypertension presented with acute-onset necrotic deep tissue infection of the lower leg. This was immediately debrided with histology confirming a streptococcal Group A necrotizing fasciitis. The resulting circumferential wound extended from the knee to the ankle leaving exposed periosteum and tendon. This defect was treated with staged application of dermal substitute (Matriderm®) and grafting which enabled leg salvage, timely rehabilitation and full recovery of the patient's mobility.

Conclusion
The case presented shows that a satisfactory outcome may be obtained with dermal substitute and grafting, even in cases of extensive lower limb soft tissue loss.

The use of telemedicine in plastic surgery trauma referrals

Mr Shakeel Rahman, Mr Thomas Hampton, Mr Ian King
East Grinstead

Background
Referring accident and emergency departments commonly have to use clinical photographs for Plastic Surgery input from a tertiary centre by utilising TRIPS (Telemedicine Referral Image Portal Service).

Since its introduction TRIPS has become an essential and integral part of the day-to-day referral process for Plastic Surgery departments. It is reliant upon health professionals at peripheral hospitals taking digital photos of the relevant injury. It is noted that not all referrals received are suitable nor useful.

Method
Photographic referrals over one calendar month sent to Queen Victoria Hospital (QVH) were reviewed. Variables included: source hospital, focus of photograph, correct anatomy in the photographic field, role of photographer (doctor, nurse, HCA, medical photographer), age of subject and whether photos influenced management decisions.

Results
710 TRIPS referrals were received in one month. It was found that the referring clinician took very few of the photographs. Of 2227 photographs examined, only 73% were in focus. Children and limb extremities were most frequently out of focus. 94% of all images were relevant to management decisions.

Conclusion
It is our recommendation that clinical staff responsible for referring the patient should also take the photograph. Furthermore, clinical staff normally involved in Plastic Surgery referral process should also receive training in order to ensure the most relevant and focused images are used and uploaded appropriately. A single view in focus is more valuable than multiple blurred images.

Does the time from diagnosis to biopsy influence the outcome of sentinel node biopsy in melanoma?

Dr Nathan Riddell, Dr Ed Balai, Mr Milap Rughani, Mr David Thompson, Mr Oliver Cassell
Oxford

Introduction and aims
Recent national guidelines recommend the use of Sentinel node biopsy (SNB) in Melanoma for stage IB and above. In the climate of pressures on NHS services there is inevitably a delay from diagnosis to SNB biopsy.

We evaluated the time interval between diagnosis and biopsy in patients' undergoing SNB to assess the effect on patient outcomes.

Methods
We assessed all SNB procedures performed between December 1998 and 2014 at the Oxford University Hospitals. The time interval was calculated from the date of primary melanoma excision and compared to the date of SNB.

Key results
Overall 1403 patients underwent SNB in Oxford with a 23% positive SNB result. The median Breslow

thickness was 1.7mm (range 0.3-17.0mm). The median time interval from diagnosis to biopsy was 48 days (range 1-176). Melanoma specific survival at 10 years was significantly ($p<0.0001$) different for SNB positive (63.2%) and SNB negative patients (89.1%). However there was no significant ($p=0.216$) impact from extended time interval to biopsy on survival.

Conclusions
In our experience an increased lead-time from diagnosis to SNB did not influence long-term survival for melanoma patients.

Case Report: microsurgery- vessel anastamosis in the pregnant/ post-partum patient

Ms Rebecca Rollett, Ms Helen Douglas, Mr Jonathan Wiper
Leeds

Introduction
We present the case of a 32-year-old patient who required free flap reconstruction of her open tibial fracture within 48 hours of significant pelvic and lower limb trauma, necessitating emergency caesarian section delivery of her 36 week old foetus. The issues involved in free flap surgery in the post-partum period and the surgical and pharmacological measures taken to overcome the physiological hypercoagulable state of postpartum patients are discussed.

Method
On table, despite good recipient vessel flow and tension free end-to-end anastomosis with the posterior tibial artery and vein, the arterial anastomosis clotted and was redone twice. There were no technical problems identified with the anastomoses at either time, only thrombus around the anastomotic site. After the second anastomosis clotted 5000iu iv heparin was administered before the third anastomosis was performed, which did not clot.

Results
The flap was sutured in place loosely and dressings applied to allow close monitoring of the flap. Post operatively the patient received treatment dose Tinzaparin for three days and then started 75mg aspirin daily & prophylactic Tinzaparin, with no complications.

Conclusion
This high risk situation demanded meticulous surgical planning to maximise operative success and minimise the risk of life threatening thrombus or haemorrhage. A literature search did not reveal any relevant articles, therefore the combined surgical, physiological & pharmacological expertise of the trauma team was paramount in the care of this patient.

The amalgamation of free flap experience by the Plastic Surgeons in Leeds was imperative to the planning of this case. We hope the management of this case can assist other teams faced with similar situations.

Caprini: a SIGN of the times? Or are we being too NICE?

Dr Daisy Ryan, Dr Adam Williamson, Mr Christopher Jones, Dr Stephanie Penswick, Mr Ken Stewart
Livingston

Introduction
Cost efficiency is growing in importance in modern-day medicine- the economic viability of services is under scrutiny. This study aimed to determine savings per annum by applying the Caprini score to elective and emergency cases presenting to Plastic Surgery St John's Hospital, Livingston. The score determines which patients receive low molecular weight heparin (LMWH)/TEDS/both as inpatients and is compared to what would be prescribed to these patients if the SIGN/NICE guidelines were followed. Caprini is validated for Plastic Surgery patients. It is more stringent in determining who is at low, medium or high risk of developing venous thrombo-embolism (VTE)- only the latter requires LMWH; unlike NICE/SIGN guidelines where a single identified risk factor results in LMWH prescribing.

Method
Data was collected from ward admissions over a month. Cost of using Caprini rules and were compared to if SIGN/NICE guidelines were applied. Costs were then extrapolated to estimate financial burden versus subsequent savings in the facility per year.

Results
Applying Caprini to patients rather than SIGN/NICE guidelines reduced Dalteparin prescribing by 30%. At £2.82 per dose, significant savings are made by changing the guidelines Plastic Surgery units use.

Conclusion
The merits of Caprini are clearly demonstrated as a cost saving exercise. This study highlights the need for prescription stewardship promotion among units. Not only will this reduce overall costs, it will vastly reduce unnecessary and potentially inappropriate medicating of patients. Despite the scale of study, its results have significant financial ramifications, questioning in what other areas could overmedication of inpatients be avoided, thus reducing overall costs?

Is chronic scar inflammation after carpal tunnel release a low grade foreign body inflammatory reaction?

Mr Andrej Salibi, Mr Joan Arenas-Prat
Preston

Introduction
Open carpal tunnel decompression is a procedure usually performed under local anaesthesia (LA), which implies an excess of liquid that needs to be swabbed or removed several times during the operation. This simple manoeuver leaves hundreds, possibly thousands, of small cotton fibres that might

eventually cause a low-grade foreign body inflammatory reaction at scar level demonstrated with pain, erythema or itchiness.

Methods
To explore this possibility, several sterile cotton gauzes were used during surgery to clean or remove excess fluid such as LA or blood. Before closure, six samples of a 1x10 mm strip of skin were excised from the margins of the surgical wound. The samples were then viewed under 3x loupe magnification on a dark background and oblique light.

Results
Examination of samples revealed dense and homogeneous distribution of loose cotton fibres all over the tissue surface.

Several factors have been suggested as cause of scar pain and inflammation after carpal tunnel decompression such as tensional modification of the flexor retinaculum, subcutaneous tissue irritation, cutaneous nerve lesions or surgical technique and materials. To date, none of these have been proven.

Conclusion
The present experiment suggests that retained cotton fibres might cause a low-grade foreign body inflammatory or immune reaction. The hand is a densely innervated region, which makes it more susceptible to this reaction. Histological studies of inflamed or painful scars would help to demonstrate or rule out our hypothesis. An animal model seems more appropriate. However, it might be more difficult to assess the painfulness of the scar.

The use of Laboratory Risk Indicator for Necrotising Fasciitis score in early assessment: a systematic review of the literature

Ms Sarvnaz Sepehripour, Mr Janak Bechar, Ms Sunita Odedra, Mr Joseph Hardwicke, Mr George Filobbos

Introduction
Necrotising Fasciitis (NF) is a rare life threatening infection with 500 reported UK cases yearly and 40% mortality. Despite advances in lab tests and imaging techniques, it can sometimes be challenging to diagnose. The LRINEC score is the only dedicated score published as a "tool" to help differentiate NF from other soft tissue infections utilising six serum parameters. There is no literature review on the LRINEC score since its publication in 2004. We aim to present the first systematic review of literature on LRINEC score.

Materials and Methods
Articles were identified from Pubmed and Cochrane databases with Boolean search terms (Necrotising OR necrotizing) AND (fasciitis) AND (score). Date range 01/06/2004 - 01/06/2016. A total of 13 articles were eligible for the literature review. A total of 846 patients were included in the review.

Results
The original paper suggests a score of six or higher to be statistically significant.

In our review the mean LRINEC score with positive NF was 6.06 while the Mean LRINEC score in non-NF cases (e.g. abscess or cellulitis) was 2.45. Mean LRINEC score in NF in limbs (6.0) seems to be lower than groin (6.8) or trunk (7.3).

Papers in the review were evaluated by Methodological Index for non-randomised Studies (MINORS) and CONSORT 2010 for randomised studies with results presented.

Conclusion
LRINEC score is a useful adjunct in diagnosing NF but there is room for improvement by including clinical parameters within the score. We also suggest lowering the cut off ofsix for suspecting NF.

Surgical management of scalp sarcomas: the East Midlands experience

Miss Lindsay Shanks, Miss Victoria Twigg, Mr Robert Ashford, Mr Sarmad Tamimy, Mr Graeme Perks, Miss Anna Raurell
Nottingham

Introduction & Aim
Soft tissue sarcomas account for less than 1% of all malignancies and are very rare in the scalp region. We aim to report the experience of East Midlands Sarcoma Service in the surgical management of scalp sarcomas from 2008 to 2015.

Method
Retrospective case note review following retrieval of data from histopathological data base.

Results
Twenty-six patients with scalp sarcomas were discussed at our sarcoma service MDT. Twenty patients underwent operations, advice was given on five patients who were treated at other centres and one patient received palliative care. Seven different histological subtypes of sarcoma were identified: dermal, clear cell, leimyosarcoma, epitheliod, myofibroblastic, angiosarcoma and dermatofibrosarcoma protuberans. 70% were primary scalp sarcomas and 30% metastatic spread. Pre-excision biopsies were performed on 50% of cases. A total of 39 operations were performed with nine patients undergoing multiple re-excisions. 15% of excisions were closed directly and 3% using VAC© therapy. 62% were reconstructed with split skin grafts, 5% with full thickness grafts, 12% with local flaps and only 3% with free flaps. The mean dimensions of excised lesions were 49 x 35 x 7mm. Excisions were complete in 85% of cases, 15% were incomplete. Three patients suffered complications relating to poor wound healing and skin graft failure.

Conclusion
In our experience extensive reconstruction is not always required. When treating myofibroblastic

sarcoma and angiosarcoma it is good practice to perform wide excisions, sample biopsies and to delay definitive reconstruction until negative excision margins have been achieved. It is imperative to be vigilant for metastatic spread of sarcomas to the scalp.

Aberrant facial flushing following monobloc fronto-facial distraction. A series of cases with an unusual post-operative phenomenon

Mr Michail Vourvachis, Mr A Cobb, Mr J Ahmed, Miss M Wyatt, Mr D Dunaway, Professor R Hayward
London

Introduction
The monobloc fronto-facial advancement with osteogenic distraction is increasingly used to correct functional craniofacial problems in one procedure as well as improve appearance. The authors report the phenomenon of postoperative aberrant facial flushing - an unusual and previously unreported complication of the procedure.

Materials and Methods
The case notes of 80 consecutive patients undergoing fronto-facial advancement by distraction using the rigid external distraction device (RED) were reviewed for features of aberrant facial flushing.

Results
Four out of eighty individuals developed facial flushing after monobloc fronto-facial distraction using the rigid external distractor (RED) frame. All were female with Crouzon or Pfeiffer syndromes causing the severe functional problems for which they underwent the surgery. They were aged six to eight years. Following frame removal, they developed intermittent but severe facial flushing. The flushing spontaneously settled in three patients after up to four years but persists in the other child seven years after her surgery.

Conclusion
Aberrant facial flushing is a rare complication that occurred in four of our 80 (5%) patients. The skull base osteotomies essential for the procedure are made anterior to the pterygopalatine ganglion and it is our contention that damage from these was responsible for a neuropraxia of its efferent nerve branches. A review of the autonomic control of the facial vascular system suggests that the phenomenon is due to an unequal process of recovery that leaves the cutaneous vasodilating parasympathetic or beta-adrenergic innervation relatively unopposed - a situation that persists until with time a normal balance of autonomic input is achieved.

Basosquamous carcinoma: a single centre clinicopathological evaluation

Mr Richard Wain, Miss Sameera Abas, Mr Srinivasan Iyer
Preston

Introduction

Basosquamous carcinoma (BSC) is a rare form of non-melanoma skin cancer (<2%). It is said to be a sub-type of basal cell carcinoma (BCC), but is best regarded as its own entity. BSCs are clinically indistinguishable from BCCs, but are said to be more aggressive and invasive, with higher rates of recurrence and metastasis. No specific guidelines exist for management of BSCs. We evaluated a cohort of patients with BSC to determine the tumour characteristics, management strategies, follow-up regimens, recurrence, and metastasis rates. Data was compared to current literature.

Methods

A retrospective review of histopathology reports, clinical notes and MDT outcomes was performed for all BSC patients managed by our unit over four years.

Results

Fifty patients were identified, four excluded. Male:Female was 3:1 with most lesions in the head & neck (n=21) and lower limb (n=11). All lesions were pT1 (n=34) or pT2 (n=11), with no lymphovascular invasion and only 4% (n=2) perineural invasion. Mean excision margins were >4mm both peripherally and deep, however incomplete excision rate was high (26% n=12) with 80% at the deep margin. Further treatment of incompletely excised BSCs was equally split between WLE and radiotherapy. None of the WLE specimens showed evidence of residual malignancy. Follow-up practices varied widely (6-40 months). There were no cases of recurrence or metastasis.

Conclusion

In this patient group, BSCs are less aggressive and less likely to recur or metastasize than stated in the literature. Incomplete excision rates, particularly at the deep margins, were higher than expected. Follow-up regimens are variable and require standardisation in the form of an evidence-based guideline, at least locally, but perhaps more widely.

Burns in over-eighty-year-olds: ten years of data from Western Australia

Dr Elizabeth Woods, Mr Jonathan Dunne, Mr Jeremy Rawlins

Aims

As the population ages burns in the very elderly are more likely to be encountered in clinical practice. There is no standard definition for the 'very old' so patients aged over eighty years have been included. The elderly face additional challenges when it comes to surviving a burn, including co-morbidities, physiological reserve, nutritional status and quality of skin. Our aim was to identify management priorities in this specialised group of burns patients.

Method

A retrospective review was conducted of all patients' ↗80 years of age who were admitted to the State Adult Burns Unit at the Royal Perth Hospital with cutaneous burns between 2004 and 2014. The data is stored on the Burn Minimum Dataset (BMDS).

Results
Sixty four patients aged over eighty years old were admitted during the ten year period. The median age was 85 (range 80 to 99). The mortality rate was 10.9%. Total body surface area (TBSA) burned ranged from 0.1% to 50%, with a mean TBSA of 6.9%. Variables such as length of stay, number of comorbidities, mechanism of injury and depth of burn were used in conjunction with the above information to understand more about burn outcomes in the very elderly. The results were compared to other adult patient cohorts in the literature.

Conclusions
Management of burns in the very old raises important and sometimes difficult management decisions, especially concerning quality of life. Our experience in this cohort necessitates a need for careful surgical decision-making, with dedicated medical and social input to reduce mortality and morbidity. This is especially relevant as we encounter an aging population in countries such as Australia.

Paediatric necrotising fasciitis

Miss Lucie Wright, Mr John Henton, Miss Brid Crowley, Mr Sanjay Varma
Newcastle-upon-Tyne

Introduction
Necrotising fasciitis (NF), a life-threatening infection of soft tissue and fascia, is commonly associated with the immunocompromised or those with co-morbidities. As such, it is rare to see it in children.

Methods
Medical notes were reviewed and clinical photography obtained for each of the cases.

Results
Microbiology specimens demonstrated group A streptococcus in all three cases.

Case one
A 9-month boy presented with malaise and a purpuric rash over the right buttock and thigh. Diagnosis of NF was made clinically, without imaging. 17% total body surface area was debrided. Intravenous immunoglobulin was commenced.

Case two
A 18-month boy presented with coryzal symptoms and a swelling on the back. Following a Magnetic Resonance Imaging (MRI) scan, the chest, left anterior thigh and lumbar region were debrided.

Case three
A 14-month boy presented with a 10-day history of coryzal symptoms and right ankle swelling. Following an MRI, he underwent debridement of the right lower leg.

Conclusions
Although rare, NF does occur in the paediatric population. It is thought that NF in children can be a complication of varicella infection (seen in case one). A high index of suspicion is required for diagnosis and a multi-disciplinary approach is imperative to optimise patient outcomes.

Is there room for improvement in SCC referral via the 2-week rule â?? a comparison of diagnostic accuracy amongst GPs, Dermatologists and Plastic Surgeons in cutaneous SCC versus BCC?

Miss Susie Yao, Mr Hamid Tehrani, Mr Paul McArthur
Liverpool

Introduction
Cutaneous Squamous Cell Carcinoma (SCC) may be difficult to differentiate from Basal Cell Carcinoma (BCC) leading to potentially metastatic tumours being misdiagnosed. This study assesses how accurate general practitioners are at differentiating SCC from BCC compared to Dermatologists and Plastic Surgeons, and how appropriately the 2-week cancer referral pathway is used.

Methods
A retrospective review of all SCC and BCC excised by Dermatology and Plastic Surgery departments between (x-y dates) were compared to the GP diagnoses. Consideration was given to the appropriate use of the 2-week referral protocol.

Results
One hundred and thirty six patients with BCC (n = 107) and SCC (n = 29) were operated on; 27 were referred via the 2-week rule. There was no statistical difference in the diagnostic accuracy of Dermatologists vs. Plastic Surgeons. When grouped together, the specialists were significantly more accurate at diagnosing SCC than GPs. 55% of SCC referred by GPs were not via the 2-week cancer referral pathway with a PPV of 21.7%.

Conclusions
The results suggest that Dermatologists and Plastic Surgeons are well matched in their ability to diagnose BCC and SCC, with GPs being less accurate. This leads to potential harm from delays in treatment for SCCs and pressures on existing resources from BCCs referred by the 2-week rule. Whilst extra training may improve diagnostic accuracy for GPs, such opportunities are limited. With numerous skin scanners existing but few used, these technologies should be considered in primary care, as the initial costs and training may quickly be rewarded by a leap in efficiency and safety of the 2-week rule.