

Review

A summary of trauma and trauma-related papers published in BJOMS during 2008–2009

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Abstract

This paper provides a summary of the 49 trauma and related papers published in British Journal of Oral and Maxillofacial Surgery during the period January 2008 to December 2009. 16/49 (32%) of these publications were full length articles, which covered areas such as epidemiology, service provision, materials and operative surgery. In addition there were other articles including short communications, technical notes, letters to the editor and interesting cases. Whilst fewer full length articles were published compared to the other sub-specialties, it was reassuring to see that the studies represent all aspects of trauma. More basic science and randomized control studies relating to trauma need to be encouraged.

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Introduction

This paper completes a series of reviews on sub-specialty papers which have been published in the British Journal of Oral and Maxillofacial Surgery over the last 2 years.^{1–6} These have included all the major sub-specialties of our discipline including oncology, salivary gland surgery, and orthognathic surgery. From January 2008 to December 2009, 49 papers were published on facial trauma. The breakdown of these publications is shown in [Tables 1 and 2](#). There were 16/49 full length articles (32%) which is lower than in some of the other sub-specialties.

Prospective trauma studies

There were 8 prospective studies and one randomized control study published in BJOMS during the study period.

Virtually all alcohol-related health issues are not only preventable but are a strain on healthcare resources. A strong association of drinking and interpersonal violence has been implicated in facial trauma, with the reported incidence of 72% in one recent study.⁷ Few maxillofacial studies have explored the preventive aspects of alcohol-related facial trauma. Oakey et al. performed a prospective multicentre study in Scotland to assess the effectiveness of brief motivational intervention on hazardous drinkers with facial injuries.⁸ Patients were offered either a nurse led brief motivational intervention or an information leaflet. The former group did better than the later and the authors proposed appointing a trauma specialist nurse to deal with this issue. A randomized control trial was subsequently conducted to confirm this finding.⁹ Facial trauma patients who drank what was deemed to be excessive alcohol were subjected to a randomized intervention.⁹ Interestingly it was found that women suffered more repeat injuries and were more likely to be involved in domestic violence if they drank hazardously. Brief motivation was more effective in long term (12 months) among those who are hazardous drinkers. It reduced the rate of repeat injury. The government implemented the new alco-

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Table 1
Breakdown of article type published.

Type of publication	Number (%)
Full length articles	16 (33%)
Operative surgery and post-operative care	5
Epidemiology	7
Service provision	2
Material and basic science	3
Short communications	16 (33%)
Letters to the editor	7 (14%)
Technical notes	7 (14%)
Interesting cases	3 (6%)
Total	49

hol licensing act in November 2005. But surprisingly the incidence of facial trauma decreased by 34% according to a study conducted in a London hospital.¹⁰

As opinion in condylar fracture management seems to be more in favour of open reduction, there is a renewed interest in the surgical approaches to the condyle. The trans-parotid approach provides good access with direct visualization to place screws perpendicular to the bone.¹¹ The risk of temporary weakness to the facial nerve, salivary gland complications like sialocele and fistula should always be borne in mind, though in a study of 50 patients, Downie et al. found that this was a safe technique.¹¹

Rapid IMFTM is a wireless method of fixation of the fractured mandible. Cousin found that it is quicker than conventional arch bar application, has negligible risk of needle stick injury and is well tolerated by patients.¹²

Following a multicentre study in India, Jain and Alexander¹³ suggested that the use of post-operative radiographs in facial trauma was unnecessary. Post-operative radiographs increase radiation exposure, as well as possibly delaying patient discharge from hospital and adding costs. They postulated that satisfactory intra-operative findings precluded the need for subsequent radiological intervention and it was deemed to be medico-legally sound. It is unlikely that such practice would gain popularity in the UK, as post-operative images provide hard evidence for satisfactory fracture reduction, as well as being important from a medico-legal standpoint.

A WHO quality of life questionnaire (QoL-Bref) was used prospectively to assess the quality of life in facial trauma patients in Nigeria. They were matched to healthy

Table 2
Breakdown of full length articles into type of study.

Type of study	Number
Prospective study	8
Retrospective study	2
Randomized control trials	1
Audit	1
Survey	1
Others	3
Total	16

controls and outcomes were recorded at different time intervals. Despite high attrition rates it was shown that QoL could be a useful tool to predict depression following trauma.¹⁴

Retrospective studies

Trauma in women and children were the subject of two recent publications in BJOMS.^{15,16} A 4 year retrospective study of facial trauma in women found that although accidents were the main causative factor, women who drank in public places were at increased risk of facial injury.¹⁵ Domestic violence occurred mainly in private surroundings. The study emphasized the social and economic impact of drinking in women.

In contrast, Kotecha et al. found that most children sustained facial injuries following a fall, with soft tissue injuries being the most common.¹⁶ A seasonal variation was found with injuries peaking during the summer months. Interpersonal violence was found to be less common in children but can lead to facial fractures.

An audit of emergency maxillofacial referral and service provision concluded that 3 dedicated trauma lists are required per million population.¹⁷ The authors recommended appropriately timed trauma lists to manage the increased workload over the weekends.

Basic science, materials and operative surgery studies

There was only one basic science laboratory study published in 2008/9 on maxillofacial trauma. Matrix metalloproteinases (MMP) synthesized by synovial cells interact with the tissue inhibitors of metalloproteinase (TIMP) causing degeneration of articular cartilage. An in vivo study on goats found that raised TIMP-1 production correlated with the development of osteoarthritis, and it was suggested that TIMP could be used as a index for monitoring the disease.¹⁸

Resorbable osteosynthesis plates can be used for rigid fixation of fractures. In a well designed prospective study, Inion[®] resorbable plates were compared with conventional titanium mini-plates for mandibular fractures.¹⁹ It was found that whilst the Inion[®] plates offered comparable stability to titanium plates, the incidence of malocclusion was greater in those patients treated with the resorbable plating system. The reason for this was attributed to early material instability. There was also a higher incidence of wound dehiscence in the resorbable plating group and this was thought to be due to both plate position and size.

All approaches to the infra-orbital rim or orbital floor have the potential for post-operative sequelae. The most common complications include rounding of the lateral canthal angle, lower eyelid retraction with inferior scleral show, and frank ectropion Salgarelli et al. reported on the use of the tarsal strip

technique for correction of lower eyelid malposition following orbital access surgery.²⁰ In a study of 29 patients (22 of whom had undergone a previous subciliary approach), they found that this technique removed the laxity of the lower eyelid in the horizontal axis and rounded the lateral canthus whilst providing some vertical support. They recommended this relatively simple technique for managing lower lid malposition following orbital floor/rim access surgery.²⁰

Other relevant full length papers

Provision of a facial trauma management service is challenging and requires both trained surgeons and adequate facilities. In an invited article, Holmes discussed the issue of service provision in the management of craniofacial trauma.²¹ He discussed that low energy trauma can be managed in a spoke centre whilst a multidisciplinary team led by an accredited, quality assured maxillofacial surgeon with interest in trauma is required for the more complex high energy trauma. Training requirement and robust data collection system were recommended.

Regarding high impact ballistic injuries, Shuker described the biophysics and mechanism of injuries affecting the mandible. Whilst fortunately rare (particularly in the UK), explosions to the lower face create a transverse fracture of the mandible which usually occurs below the mylohyoid line with decoronation of teeth at the level of the amelo-cemental junction.²²

Short communications and letters to the editor

There were 16 short communications^{23–38} and 8 letters to the editor^{39–45} published in 2008–9 relating to facial trauma. In a recent review of short communications published in BJOMS in 2008–9, and using established criteria for assessment, it was found that nearly 48% of all published short communications published during that period (142 papers) did not add much new information to existing knowledge.⁶ However, many of these were very interesting and merited publication. Therefore as previously discussed, and in line with many other journals, the editorial team has decided to publish the majority of short communications online only.⁴⁶ These will still be fully citable and appear on PubMed but will not appear in paper form. A list of online papers will be published in each edition of the Journal so that interested readers can access them.

There were some excellent short communications relating to facial trauma. For example, several orbital trauma papers were published on unusual cause of injury, diplopia, cranial nerve injury, imaging and reconstruction plates.^{23–26} Other trauma-related short communications described techniques and materials,^{27–30} whilst others described unusual presentations.^{31–33}

Technical notes and interesting cases

Seven technical notes^{47–53} and 3 interesting cases^{54–56} relating to facial trauma were published during 2008/9 in BJOMS. Most of the technical notes published provided modifications or improvements to existing techniques. This sort of publication is certainly to be encouraged as any improvement in surgical techniques can only be good for our patients.

In conclusion, this article summarizes the trauma-related papers published in BJOMS during 2008–9. Whilst the number of full length articles published in this sub-specialty were lower than for example in head and neck oncology, it was pleasing to see that almost all aspects of facial trauma have been covered. There is still controversy in many aspects of trauma management (not least of which is for condylar injuries), and a leading trauma article in this area has already been commissioned.⁵⁷

Conflict of interest

None.

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