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A SHOT IN THE DARK

Sir, a 28-year-old patient was referred to the maxillofacial department regarding a possible fracture of the left infra-orbital rim. On attendance he gave a history of tripping and falling whilst under the influence of alcohol and injuring his face on a metal triangular sign. Unusually his concern was mainly that he may have a foreign body in his cheek wound.

On examination there was a small healing laceration on the left cheek with mild oedema and tenderness associated and there was reduced sensation in the V2 inferior orbital branch distribution. The remaining clinical examination was entirely normal. Radiographic evaluation from the time of incident revealed an unusually-shaped radiolucency in the upper left quadrant, which may have previously been missed due to the patient's anterior crowns (Fig. 1).

On review, an unusual radiographic appearance was noted on the occipito-mental views and prompted further investigation, consisting of a lateral cephalogram (Fig. 2). This revealed a bullet shaped object in the maxillary sinus, approximately 10 mm length with comminution of the anterior maxillary wall. At this point the patient gave a slightly altered history including being caught up in an altercation involving a firearm. Given the history of ongoing pain and discomfort in this region, the decision was made for the foreign body to be removed. This was achieved using a Caldwell-Luc procedure and the foreign body was successfully removed under general anaesthetic. The patient's post-operative recovery was uneventful.

K. Irwin, N. Ahmed,
N. S. Matthews
By email

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Fig. 1 OM view showing unusual radiolucency associated with the upper left lateral incisor and canine crowns

Fig. 2 Lateral cephalogram showing a foreign body within the maxillary sinus

POTENTIALLY DISASTROUS

Sir, it is important that the *BDJ* clearly distinguishes sound, proven evidence based facts from opinion in its published articles. Blurred distinctions can lead to an article being cited with an opinion claimed as fact – a potentially disastrous situation in the event of medico-legal cases should such opinion be perceived as fact. I refer to the article *Iatrogenic mandibular fractures following removal of impacted third molars: an analysis of 130 cases* (*BDJ* 2012; 212: 179–184) in the hope of making my point.

It is mentioned in this article that the external oblique ridge of the mandible provides significant strength to the mandible, which although unreferenced is no doubt true. However, this statement is soon followed by another claiming that judicious tooth/root division can potentially reduce the risk of mandibular fracture for which there is no evidence. Should this opinion be taken as

evidence-based, is it then a failure of the duty of care not to use such a technique all the time? They later state that only symptomatic wisdom teeth are considered for extraction in the UK and cite the NICE guidance as evidence of this fact which is not in that reference. However, it is not known how many wisdom teeth extracted in the UK do not satisfy NICE guidelines and I am confident there are many eg prior to radiotherapy, bisphosphonate medication etc. In the text and in Table 5 'Roll [sic] of the clinician', they advocate a soft diet and the avoidance of trauma/contact sports for at least four weeks post-operatively giving no reference for this advice. I am not aware there is any published evidence to support such a statement. The prevalence of iatrogenic fracture cannot be accurately determined as there is no national register of this event and one must be cautious in the interpretation of the literature as to its frequency. It may be increasing/decreasing depending on current techniques, experience of the surgeon and the use of modern equipment. This has not been discussed. The thrust of the discussion is to minimise the risk of iatrogenic fracture yet the evidence presented from the literature in this paper would appear that it is unpredictable in its occurrence. To advocate prophylactic plating which has no scientific basis in 'high risk cases' assumes an ability to predict where a fracture may result and may well give rise to unnecessary prophylactic plating with the patient left with a plate that may well require removal later.

I apologise for using this paper to make my point that evidence-based facts must be clearly distinguished from opinion in articles published in the *BDJ*; however, I learnt much from the article.

G. D. Wood, By email

M. Ethunandan, D. Shanahan and M. Patel, respond: Thank you for giving us an opportunity to respond to the comments about our recent article.¹ Mr Wood raises important issues regarding what constitutes 'evidence-based practice'. We fully subscribe to the philosophy of clinical practice being based on 'evidence'. The levels of evidence of medical literature² should be well known to the readership and we would hope that this,

along with other articles, is assessed along these parameters, rather than their potential to influence medico-legal cases.

Accurate estimates of the frequency of mandibular fractures following third molar removal are difficult to ascertain, as discussed in our article, and the reported figures are based on postal surveys. It would be even more speculative to suggest a changing frequency commensurate with current techniques or the use of modern equipment. The lack of information about these aspects and their potential role in mandibular fractures has been specifically highlighted in our article.

Szucs et al.³ using finite element analysis evaluated the outcome of varying amounts of bone removal during impacted third molar extraction and found increased bone removal especially involving the external oblique ridge lead to the highest concentrations of stress at this site, which could predispose to mandibular fracture. They also suggest that sparing the external oblique is desirable to maximise tolerance of the mandible to loading. Cankaya et al. reported a mandibular fracture, which was felt to be secondary to excessive bone removal from the external oblique ridge.⁴ Tooth/root division to minimise bone removal has been reported as a possible method of reducing the risk of fracture in many publications reviewed in our article.⁴⁻⁸

Mandibular fractures occurred most frequently in the second and third postoperative weeks, in a period characterised by increased osteoclastic activity. Many reports, reviewed in our article suggest a cautious approach during this period.⁵⁻¹¹

The statement about NICE and wisdom teeth removal was made in relation to pre-operative infections being a possible risk factor for mandibular fractures and the relative rarity in which this complication has been reported in the UK, where the most frequent reason for wisdom tooth removal is pericoronitis. We concede that 'often' would have been a better word choice than 'only'.

Prediction of a mandibular fracture is unfortunately not yet and unlikely to be an exact science, but the available literature suggests a possible increased frequency in certain circumstances. It is of primary importance to discuss the advantages and disadvantages of any treatment decision

and the alternatives with patients during the treatment planning and consent process, as suggested in the article. The final plan is likely to depend on individual patient/operator factors in addition to the place of procedure and equipment available. Prophylactic plating is one of a number of options, which includes differing surgical approaches, conservative treatment, ORIF, IMF reported in the literature to manage a potential/actual fracture.

We are not aware of any prospective cohort studies or retrospective case controlled studies, let alone blinded RCTs, assessing the risk factors/management of mandibular fractures associated with third molar removal. In the absence of high quality evidence to influence clinical management, we feel a summary of 'reported practice' can help highlight the deficiencies and inform clinicians about peer practice. We are glad that the article was of some value and more importantly a source for discussion. This can only benefit the clinical community and hopefully stimulate clinicians to address the shortcoming in the available information.

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