nasolacrimal duct obstruction, over the past decades, the popularity of EN-DCR has increased due to the obvious advantages already pointed out by the authors. The increased popularity of the EN-DCR is also supported by the better outcomes. In this respect, we challenge the authors to agree that the different success rate in their 2 groups (91.0% versus 71.5%) is likely to be attributed more to the different surgical technique rather than the adjuvant use of MMC.

In fact, we note that the adjuvant MMC increases the success rate of revision EN-DCR, <sup>2</sup> whereas the success rate of primary EN-DCR is already very high and might not benefit from the adjunctive use of MMC.<sup>3</sup> Furthermore, the same findings of better wound healing at the osteotomy site in absence of increased success rate was previously reported.<sup>4</sup>

Because of the retrospective nature of the study, we would have welcomed a selection of more homogenous groups, including only patients with primary or revision DCR. We would have also expected a comparative interventional study between patients treated with EN-DCR alone and EN-DCR with MMC to assess the effect of MMC, which was the purpose of this article. In contrast, the authors only used the adjunctive MMC in their patients undergoing EN-DCR and then compared the success rate of this group with a group of subjects undergoing external DCR without MMC.

With regard to the adjunctive use of silicone tube, we would like to cite a recent meta-analysis that concluded that silicone tubing after primary EN-DCR is not necessary.<sup>5</sup> This confirms the original findings of a previous prospective randomized interventional trial.<sup>6</sup>

We would like to stimulate the authors to provide more details regarding their study. In particular the following:

- (a) Were the patients allocated to 1 of the 2 different groups according to particular preoperative characteristics?
- (b) Were the patients operated on by the same surgeon?
- (c) The size and location of the osteotomy were not reported. This has been found to be a common cause of failure. Were size and location of osteotomy consistent throughout the study?
- (d) Could the authors provide a differentiated analysis of success rates and postoperative complications for patients undergoing primary procedures and revisions among their 2 groups of patients?
- (e) How the authors defined and assessed the success of their procedure? We would like to highlight that the patency on saline irrigation demonstrates the anatomic success, whereas the Jones fluorescein dye test, the height of the tear meniscus, and the freedom from epiphora are indicators of functional success.

Marco Carifi, MD A.O.R.N. "A. Cardarelli" Naples, Italy

Bruno Zuberbuhler, PhD Manchester Academic Health Science Centre Manchester

> Gianluca Carifi, MD Moorfields Eye Hospital London, UK gianlucacarifi@gmail.com

## **REFERENCES**

 Apuhan T, Yldrm YS, Eroglu F, et al. Effect of mitomycin C on endoscopic dacryocystorhinostomy. *J Craniofac Surg* 2011;22:2057–2059

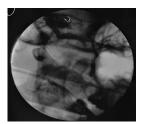
- Penttilä E, Smirnov G, Seppä J, et al. Mitomycin C in revision endoscopic dacryocystorhinostomy: a prospective randomized study. Am J Rhinol Allergy 2011;25:425–428
- Smirnov G, Tuomilehto H, Kokki H, et al. Symptom score questionnaire for nasolacrimal duct obstruction in adults—a novel tool to assess the outcome after endoscopic dacryocystorhinostomy. *Rhinology* 2010;48:446–451
- Ugurbas SH, Zilelioglu G, Sargon MF, et al. Histopathologic effects of mitomycin C on endoscopic transnasal dacryocystorhinostomy. Ophthalmic Surg Lasers 1997;28:300–304
- Gu Z, Cao Z. Silicone intubation and endoscopic dacryocystorhinostomy: a meta-analysis. J Otolaryngol Head Neck Surg 2010;39:710–713
- Smirnov G, Tuomilehto H, Teräsvirta M, et al. Silicone tubing is not necessary after primary endoscopic dacryocystorhinostomy: a prospective randomized study. Am J Rhinol 2008;22:214–217
- Konuk O, Kurtulmusoglu M, Knatova Z, et al. Unsuccessful lacrimal surgery: causative factors and results of surgical management in a tertiary referral center. Ophthalmologica 2010;224:361–366

## Management of a Needle Breakage During Third Molar Extraction With C-ARM Digital Fluoroscope

**To the Editor:** Reviews of the scientific literature shows that needle breakage in the oral cavity is a potential complication of surgical procedures performed with local anesthesia with possible serious risks of injuries of vital structures, including blood vessels and nerves. Most cases occur during inferior alveolar nerve blocks because of an inadequate technique or unexpected movement of the patient during anesthesia. Intraoperative localization comprises different measures such as metal detector, magnets, x-rays, and C-arm fluoroscope. <sup>1–3</sup>

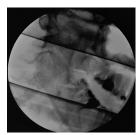
For a correct surgery planning and an adequate removal of the needle, a detailed knowledge about the anatomic point of breakage is essential; most authors use image-guided technique to localize the fragment, either multiplane x-rays or fluoroscopy with at least 2 reference needles in place or three-dimensional computed tomographic scans. Other authors suggest the use of a metal detector or a magnet.<sup>4,5</sup>

We describe a peculiar case of a needle breakage during a third molar extraction removed with the aid of a digital fluoroscope, enriching the poor current scientific literature of image-guided removal of foreign bodies in the oral cavity. On July 2011, a 35-year-old woman was referred by her dentist to the Unit of Maxillo-Facial Surgery of



**FIGURE 1.** Needle broken in the pterygomandibular area; fluoroscopic intraoperative radiograph.

© 2012 Mutaz B. Habal, MD 1583



**FIGURE 2.** Fluoroscopic intraoperative radiograph after the foreign body removal.

the Novara University Hospital, Italy, for a broken-needle fragment after the inferior alveolar nerve block.

One month before, she had received local anesthesia for the extraction of the left inferior wisdom tooth; during the injection, the needle broke into the pterygomandibular space. The third molar was easily removed; however, after an unsuccessfully surgical search of the needle, the dentist referred his patient to our clinic. The patient complained of trismus and intraoral pain; nothing was locally objectified during the inspection. Orthopantomogram showed the location of the fragment of the dental needle in the left pterygomandibular space (Fig. 1).

The patient was immediately taken to the operating theater for the removal of the needle via oro-endotracheal intubation under general anesthesia; the precise location of the foreign body was determined using the fluoroscope (C-arm Radius; Intermedical SRL, Grassobbio,

Italy). After a vertical 4-cm mucosal incision along the ascending ramus of the left mandible and blunt dissection, the needle was reached and removed (Fig. 2). Postoperation was uneventful, and the patient was discharged from our clinic after 2 days.

Matteo Brucoli, MD, Maura Deandreis, MD, Francesco Arcuri, MD, Arnaldo Benech, MD, PhD University of Piemonte Orientale "Amedeo Avogadro" Novara, Italy fraarcuri@libero.it

## **REFERENCES**

- Augello M, von Jackowski J, Grätz KW, et al. Needle breakage during local anesthesia in the oral cavity—a retrospective of the last 50 years with guidelines for treatment and prevention. *Clin Oral Investig* 2011;15:3–8
- Johansson B, Krekmanov L. Fragment of broken instrument removed from field of operation by an electromagnet. Br J Oral Maxillofac Surg 1987;25:265–266
- Moore UJ, Fanibunda K, Gross MJ. The use of a metal detector for localisation of a metallic foreign body in the floor of the mouth. Br J Oral Maxillofac Surg 1993;31:191–192
- Progrel MA. Broken local anesthetic needles. A case series of 16 patients, with recommendations. J Am Dent Assoc 2009; 140:1517–1522
- Ethunandan M, Tran AL, Anand R, et al. Needle breakage following inferior alveolar nerve block: implications and management. Br Dent J 2007;202:395–397

1584 © 2012 Mutaz B. Habal, MD