A novel method for delivery of tumescent solution prior to coronal flap incisions

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BACKGROUND

Over recent decades, the coronal flap has become a popular approach for oral and maxillofacial surgeons, head and neck surgeons, and neurosurgeons requiring access to the craniofacial skeleton. Studies have suggested the hydrodissective and vasoconstrictive properties of tumescent solution injected into the subgaleal plane are beneficial in raising this flap.¹ We describe a novel delivery method for the solution used in this procedure.

TECHNIQUE

With the patient in a supine position, the incision line is marked with a surgical marker. Our standard tumescent solution contains 40ml bupivacaine (0.25%), adrenaline (1:1,000), hyaluronidase (1,500iu) and hydrocortisone (100mg), drawn up in 500ml of normal saline.

Figure 2 Assembled apparatus for delivery of tumescent solution

This is delivered via a pressurised giving set, attached to a three-way tap, 50ml syringe and 10G spinal needle (Figs 1 and 2). After injection, the solution is massaged through areas of dissection. The syringe can be continually refilled by use of the three-way tap before being redirected and the solution reinjected. Once delivery is complete, the patient can be prepared and draped for the procedure.

DISCUSSION

The hydrodissective, vasoconstrictive and anti-inflammatory properties of our tumescent solution provide a useful adjunct to raise a coronal flap. We feel our technique has made appropriate delivery of this solution easier, which in turn has anecdotally reduced intra-operative bleeding and postoperative pain.

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Reference

1. Park JH, Kyeong HS, Ha DH, Kim DI. The use of tumescent solution in bicoronal incision. *J Korean Cleft Palate Craniofac Assoc* 2003; 4: 178–182.

Figure 1 Equipment for delivery system