

Horner's syndrome following tonsillectomy

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Abstract

Tonsillectomy is one of the commonest procedures performed in the United Kingdom. Peri-operative infiltration of local anaesthetic is a well documented adjunct to post-operative analgesia. We report the first case of temporary Horner's syndrome in a patient who received such treatment and postulate an anatomical explanation.

Key words: Tonsillectomy; Horner Syndrome; Anaesthetics, Local

Introduction

Tonsillectomy, with or without the removal of adenoids, is one of the most frequently performed surgical procedures in the United Kingdom. Several complications have been reported following tonsillectomy, with haemorrhage, infection and pain being amongst the most common. Here, we report a case of temporary cervical sympathetic paralysis (Horner's syndrome) two hours following a tonsillectomy. This condition presents with miosis, ptosis, apparent enophthalmos and anhidrosis on the affected side. This is the first known case following tonsillectomy to be presented in the literature.

Case report

A 35-year-old woman with a history of left-sided throat discomfort and recurrent tonsillitis underwent tonsillectomy. The procedure was performed under general anaesthesia delivered via an endotracheal tube. Intra-operative analgesia was achieved with intravenous Ultiva (remifentanyl, GlaxoSmithKline Pharmaceuticals, Glaxo Wellcome UK Ltd., Stockley Park West, Uxbridge). 'Cold steel' dissection tonsillectomy was utilized and the lower poles of the tonsils were snared. Haemostasis was achieved with minimal electrocautery, as routinely used in this department. When the tonsils had been removed, each tonsillar fossa was infiltrated with 5 ml of 0.5 per cent Marcaine (bupivacaine, AstraZeneca Pharmaceuticals, Alderley Park, Macclesfield, Cheshire); the safe maximum dose is 0.4 ml/kg. The patient made an uneventful recovery from general anaesthesia and was transferred back to the ward. Two hours following surgery, the ENT team were called to review the patient. She was found to have bradycardia, with a heart rate of 44 bpm, and her arterial blood pressure was 68/38 mmHg. The tonsillar fossae remained dry, with no evidence of primary haemorrhage. A unit of Gelofusine Ecobag plasma expander (B. Braun Medical Ltd, Thorncliffe Park, Sheffield) was given intravenously and the patient was reviewed 30 minutes later. At this stage, her blood pressure had risen to 88/40 mmHg and her heart rate was 60 bpm. She was however complaining of slightly blurred vision, and further examination showed

her to have right-sided Horner's syndrome with blepharoptosis and miosis; her right pupil at this time was 3 mm, compared with 4 mm on the left. Skin dryness was not formally assessed. The patient was observed and by the following morning was normotensive and normocardic. The Horner's syndrome had resolved, and she remained asymptomatic at her post-operative review.

Discussion

Local anaesthesia infiltration has been shown to reduce pain in both adults¹ and children² undergoing tonsillectomy. The anaesthetic can be applied topically onto the tonsillar fossae or may be injected submucosally. Our department favours the latter method as the analgesic effect appears to be enhanced. We postulate that this patient's temporary Horner's syndrome and hypotension

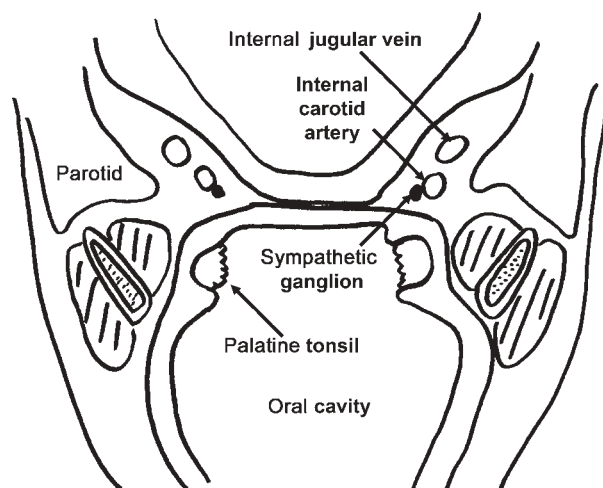


FIG. 1

Cross section through the mouth at the level of the palatine tonsil.

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were mediated by a direct action of the local anaesthesia on components of the sympathetic chain. The superior cervical ganglion lies 1.5 cm posterolateral to the palatine tonsil³ (Figure 1) and it is possible that injected local anaesthetic may diffuse and bathe the ganglion. Alternatively, anatomic variation may have placed the ganglion closer to the tonsil. Permanent Horner's syndrome after tonsillectomy has been reported rarely.^{3–5} Peritonsillar local anaesthetic infiltration has been reported to cause temporary facial nerve⁶ and vocal fold⁷ paralysis. Bupivacaine has also been implicated in temporary Horner's syndrome following obstetric epidural anaesthesia.⁸ To our knowledge, this is the first example of its use following tonsillar surgery causing a temporary Horner's syndrome. Surgeons and recovery room staff should be aware of this uncommon complication that can occur with the use of peritonsillar infiltration of local anaesthesia for pain control in tonsil surgery.

- **This is the first reported case of Horner's syndrome following tonsillectomy**
- **The symptoms were transient**
- **The authors explain this occurrence as being due to infiltration of local anaesthetic following the procedure**

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