Management of retained ear-rings using an ear block*

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SUMMARY

A local anaesthetic block of branches of the greater auricular and auriculotemporal nerves was used to facilitate the extraction of retained butterfly backs and ear-ring studs. A total of 28 ear blocks were performed on 26 patients. Two patients required bilateral ear blocks, and 17 earlobes were infected. Complete analgesia was obtained in 25 cases, and two patients complained of tolerable discomfort during removal of the ear-ring. Assessment of analgesia was not possible in one 5-year-old child. We recommend this quick and simple technique for removal of retained ear-rings, particularly when there is associated soft tissue infection, in which case infiltration of local anaesthetic into the earlobe is contraindicated.

Keywords: ear-ring, local anaesthesia, nerve block

INTRODUCTION

Ear piercing is commonplace for both males and females, but occasionally stud ear-rings can become lodged and/or cause infection in the earlobe. Extraction of these foreign bodies can be painful, particularly in the presence of earlobe infection, and thus good analgesia is essential for their removal.

We assessed a technique of local anaesthetic block of branches of the greater auricular and auriculotemporal nerves to aid removal of these ear-rings^{1,2}.

PATIENTS AND METHODS

All patients presenting to the accident and emergency (A&E) department with a retained ear-ring were included in the study.

The procedure for removal was thoroughly explained to the patient and the parents when necessary. We found this particularly helpful with younger patients, as they frequently have an inordinate fear of needles.

With the patient supine and the head turned to the contralateral side, the area was cleaned with an antiseptic swab. A 25-mm 25 G needle was inserted

1–1.5 cm below the earlobe and 1–1.5 mL of Lignocaine (2% plain) were infiltrated subcutaneously on each side of the ear in a V-distribution to the level of the tragus anteriorly and to the level of the mastoid posteriorly. Aspiration prior to injection was performed so that inadvertent injection of local anaesthetic into the superficial temporal artery did not occur.

After a period of 5 min the lodged ear-ring could be easily removed using a splinter forceps. No skin incision was necessary.

The effectiveness of the block was assessed by asking the patients to categorize the ear-ring extraction into one of three groups: completely painless, slightly painful or very painful.

RESULTS

There were 26 patients (22 females and four males) with a median age of 11 years (range 4–69 years). A total of 28 ear blocks were performed: nine on the right ear and 19 on the left ear.

The butterfly back was embedded in the lobe in 22 patients, and the complete ear-ring was visible in four patients. The latter patients had been unable to remove the ear-ring because of painful infected swelling of the lobe, having had their earlobes pierced days prior to their presentation. The anterior stud alone had become intra-lobular in a further two patients after the parent in each case had pulled it into the lobe during attempted removal. Infection, identified as lobe swelling and erythema with or without pus, was present in 17 patients (61%).

The ear block was performed by the A&E registrar in 23 patients and by the senior house officer (SHO) in the remaining five patients. Complete analgesia was achieved in 25 cases (89%), with two patients experiencing tolerable discomfort during ear-ring removal. One five-year-old child cried continually from her initial assessment, and thus accurate assessment of her level of analgesia was not possible. Although 2% Lignocaine was used in the study, a 1% preparation has subsequently been used with good results. There were no complications.

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DISCUSSION

Patients with retained stud ear-rings commonly present to the A&E department, but our methods of providing analgesia for removal of the ear-ring are often inadequate, particularly when there is associated lobe infection. Ear-ring removal without analgesia can be a painful and frightening experience for a child.

Ethyl chloride spray does not provide adequate analgesia and requires repeated applications that are uncomfortable for the patient. It may also distort tissue planes.

Infiltration of local anaesthetic into an earlobe has three main disadvantages. First, it carries the risk of an accidental needlestick injury to the operator, as the lobe must be stabilized by the operator's fingers during infiltration. Secondly, as is evident from our study, infection is commonplace with retained ear-rings and, in keeping with the principles of local anaesthesia, infiltration of local anaesthetic agents into infected tissue is contraindicated. If administered, local anaesthetic may not be effective as it is quickly

removed by the hyperaemic tissue, and the tissue acidosis associated with infection neutralizes the active free base portion of the local anaesthetic agent. Thirdly, there is a theoretical risk of dissemination of the soft tissue infection.

An infra-auricular block of branches of the greater occipital and auriculotemporal nerves away from the infected area avoids these problems. It provides adequate analgesia in the majority of patients, and makes swift removal of the ear-ring possible. It has also been used for suturing lacerations to the pinna and for incision and drainage of sebaceous abscesses and perichondral haematomata. However, one must be aware that the upper aspect of the pinna is frequently innervated by fibres from the lesser occipital nerve (Fig. 1), and thus further infiltration of local anaesthetic superior to the mastoid will be necessary for procedures involving this part of the ear.

This ear block is easy to perform and is a suitable technique for SHOs in A&E departments following adequate instruction. We recommend this quick and simple method to aid the removal of retained ear-

Fig. 1. Embedded butterfly with earlobe infection.

Fig. 2. Nerve supply of the pinna.

Fig. 3. Infiltrate anteriorly to the level of the tragus.

rings, particularly when there is associated infection, and its use can be extended to other procedures involving the pinna.

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Fig. 4. The mastoid marks the posterior limit of the block.

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