

# Pseudocyst of the auricle treated with intralesional sodium tetradecyl sulphate injection

Dear Editor,

A pseudocyst of the auricle is a rare benign cystic swelling that usually presents on the anterior surface of the ear. Various treatments have been used so far.<sup>1-4</sup> Here we report a case of pseudocyst of the auricle treated with intralesional sodium tetradecyl sulphate injection.

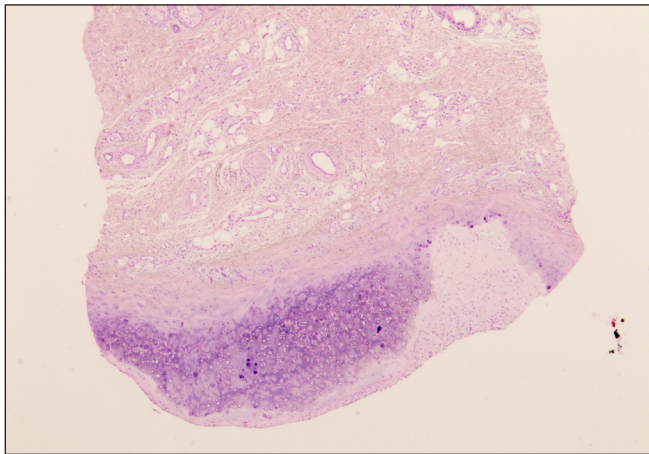
A 58-year-old man presented with an asymptomatic, coin-sized soft mass on his right ear that had occurred a month ago [Figure 1]. He had no history of preceding trauma or any abnormal findings on neurological examination. A punch biopsy was performed, and microscopic examination revealed an intra-cartilaginous cystic cavity without an epithelial lining [Figure 2a]. It was surrounded by degenerative cartilage and contained mucin [Figure 2b]. Therefore, we diagnosed the patient with a pseudocyst of the auricle.

A suture was given after removing as much serous fluid as possible. However, two weeks after the biopsy, the lesion site swelled again. We decided to perform an intralesional sodium tetradecyl sulphate (1%) injection because the patient had fear of steroids. Despite being performed without local anaesthesia, the patient did not complain of much pain. One

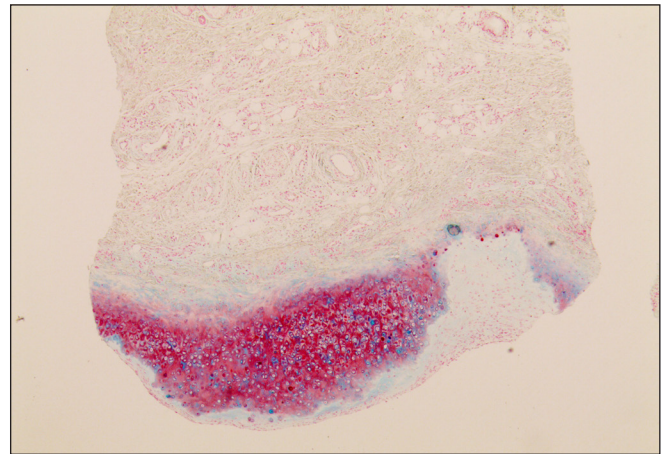
month later, the lesion had decreased by approximately 70%. A second injection was performed in a similar manner. After one month, the lesion had completely resolved [Figure 3]. The patient was satisfied cosmetically, and the treatment was terminated. No recurrence or side effect was noted at six months follow up visit.



**Figure 1:** Coin-sized soft cystic swelling on the scapha of the right ear.



**Figure 2a:** Intra-cartilaginous cystic cavity without a true epithelial lining (H&E, ×40).



**Figure 2b:** Mucin around the cystic cavity surrounded by degenerative cartilage and stained blue (Alcian blue stain, ×40).

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**Figure 3:** Complete resolution of the lesion after two injections of 1% sodium tetradecyl sulphate.

A pseudocyst of the auricle is a benign, spontaneous and painless swelling that typically occurs in the scaphoid or triangular fossa.<sup>1,2</sup> It occurs mainly in young adults and males.<sup>1</sup> Pseudocyst fluid shows elevated interleukin 1 (IL-1), inhibited by estradiol and progesterone and elevated by testosterone. Therefore, it is thought to be prevalent in males due to differences in these hormonal cytokine inductions.<sup>5</sup> It is considered that there is no racial predisposition, although there are many reports in Asians, especially Chinese.<sup>6</sup> The exact cause of pseudocysts of the auricle is not yet known, but two hypotheses have been proposed.<sup>1-3</sup> First, lysosomal enzymes released by chronic mild trauma induce cartilage degeneration and pseudocyst formation. The second possible cause is congenital embryonic dysplasia of the auricular cartilage. Diagnosis is based primarily on clinical characteristics, but it should be differentiated from diseases such as hematoma, cellulitis and relapsing polychondritis. Histologic examination shows an intracartilaginous cyst lacking a true epithelial lining; hence, the term ‘pseudocyst’. Thinned cartilage, degeneration of hyaline and granulomatous changes have also been observed.<sup>3</sup>

Although diverse non-invasive methods are used to treat pseudocysts of the auricle, there is no gold standard. Table 1 shows the advantages and disadvantages of each treatment. Sodium tetradecyl sulphate, a detergent sclerosant, that promotes the destruction of intrachondral cystic cavity walls and fibrosis after an inflammatory response has few side effects at low concentration.<sup>3,7</sup>

Injection of intralesional sodium tetradecyl sulphate is a simple and inexpensive treatment that can produce excellent results without major side effects, and we suggest using it as a treatment for pseudocysts of the auricle. It is meaningful to report this case because the treatment of pseudocysts of the auricle using intralesional sodium tetradecyl sulphate is not widely known yet, and there is limited literature available on its use.

**Table 1: Summary of various non-invasive treatments of pseudocyst of the auricle**

Author	Method	Advantage	Disadvantage
Agrawal <i>et al.</i> (2020) <sup>4</sup>	Aspiration	Simple Cost-effective	Possibility of recurrence
Parajuli <i>et al.</i> (2020) <sup>2</sup>	Intralesional steroid injection	Simple	Deformity Skin thickening Atrophy of auricular cartilage Skin pigmentation
Paul <i>et al.</i> (2001) <sup>1</sup>	Pressure dressing after drainage	Simple	Discomfort in daily life
Lee <i>et al.</i> (2013) <sup>3</sup>	Intralesional sodium tetradecyl sulphate injection	Simple Cost-effective	Pain Ulceration

### Declaration of patient consent

Patient’s consent not required as patients identity is not disclosed or compromised.

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### Conflicts of interest

There are no conflicts of interest.

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