



Auricular seroma: Case report

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Introduction

Auricular seroma is an uncommon, non-inflammatory, and benign condition affecting the auricle. Synonyms for auricular seroma include auricular pseudocysts, cystic chondromalacia, endochondral pseudocyst, intracartilaginous cyst, and benign idiopathic cystic chondromalacia. While there is no known genetic predisposition, it exhibits a higher occurrence in Chinese and Caucasian males. The prevalence is greater in males than females and typically manifests unilaterally. The hypothesis proposing hormonal influences on the inflammatory process is suggested to explain the male predominance. In unilateral instances, the right ear is more frequently affected than the left ear. Bilateral seroma presence is documented in the pediatric population. Although seromas can manifest anywhere on the auricle, they commonly occur in the scaphoid fossa. Auricular seromas are characterized by the accumulation of sterile, viscous straw-yellow fluid without cells within the cartilage.

These benign accumulations of serous fluid are included in the differential diagnosis of auricular swellings, alongside hematomas and pseudocysts. Seromas have a tendency to recur. In contrast to auricular hematomas, the fluid in auricular seromas is straw-colored and serous. Additionally, auricular hematomas are typically linked to a specific history of trauma,

whereas auricular seromas are associated with minor injuries. A recent theory posits that auricular hematomas and seromas may represent two points on a continuum of the same process. In auricular seromas, fluid accumulates between the dermis and perichondrium of the ear, with changes in the cartilage being infrequent. While some physicians advocate leaving the seroma untouched, others consider it necessary to obtain a diagnosis and treat with aspiration alone or with a compressive dressing.

Pathogenesis

The auricle undergoes development from six tubercles surrounding the first and second branchial arches. Anomalies in the development of these arches can result in the presence of residual tissue planes within the cartilage, which may reopen and give rise to the formation of seromas. Dysplasia of auricular cartilage contributes to the development of an intracartilaginous space, leading to fluid accumulation and the subsequent formation of pseudocysts. Histological examination of auricular seromas reveals thinned cartilage, granulation tissue, hyalinizing degeneration lining the cystic space, and the presence of inflammatory cells. The intracartilaginous cystic space lacks an epithelial lining. Analysis of the cystic contents indicates a fluid rich in albumin, a cytokine milieu, and acid proteoglycans. Elevated levels of Interleukin 6 (IL-6) and serum lactic dehydroge-

nase are noted in reports. IL-6, known for stimulating chondrocyte proliferation, plays a role in the pathogenesis. Autoimmune analysis reveals significantly lower levels of Immunoglobulins (Ig G, IgA, IgM, and C3 in cystic fluid compared to serum levels. Elevated serum lactic dehydrogenase supports the concept of cyst development following repeated minor trauma, which may release enzymes from degenerated auricular cartilage. Minor trauma or events leading to auricular cartilage fragmentation can result in pseudocyst formation.

Management

The primary objective of treatment is the preservation and restoration of the anatomical structure of the pinna, removal of cystic lesions, and prevention of recurrence. Without intervention, fibrosis and cartilage hardening may occur, leading to a permanent cauliflower ear deformity, posing a significant challenge for treatment.

Aspiration with intralesional steroid injection stands as a straightforward, brief, and minimally invasive outpatient procedure. The procedure does not necessitate analgesics or antibiotics, and no external or pressure dressings are employed. Due to the potential for complications arising from multiple steroid injections, the doses are restricted to a maximum of three. Serious complications, including skin pigmentation, perichondrial abscess, pinna atrophy, cartilage deformity, or perichondritis, may occur. If fluid collection is reported post-procedure, an additional triamcinolone may be administered weekly, limited to a total of three doses. While some studies report pinna thickening, it is generally deemed not a significant cosmetic deformity, resulting in satisfactory outcomes. Swelling at the needle puncture site may progressively increase until the fourth or fifth day, followed by a reduction, with complete disappearance by the end of the first week. Studies affirm the efficiency, cost-effectiveness, and promise of this treatment modality in averting recurrence and complications.

Case

A 35-year-old male presented with swelling in the right ear following mild trauma. Upon further questioning, the patient reported no major trauma. Clinical assessment; the patient had a swelling over the scaphoid fossa. The absence of the history of major trauma, and the clinical examination led to the diagnosis of auricular seroma. The patient underwent two aspirations, but the swelling recurred. Upon a subsequent presentation, a local steroid injection was administered. Utilizing a 23-gauge needle and a 3 mL syringe, the process involves aspiration with the needle left in situ to prevent a second puncture and collapse of the intracystic space. Subsequently, a syringe containing 1 mL of a 40 mg triamcinolone acetonide solution is attached to the retained needle, and the solution is injected through the same puncture. The steroid is directed into the subperichondrial space, and a spirit swab is applied at the puncture site to mitigate bleeding and medication leakage. To prevent perichondritis, a seven-day prescription of oral ciprofloxacin 500 mg twice daily is administered. The patient reported that the swelling persisted for a few days before gradually resolving. Notably, there were no reports of recurrence of the swelling in subsequent follow-ups.

Conclusion

In conclusion, auricular seroma, though rare, presents as a non-inflammatory and benign condition affecting the auricle. The diagnostic journey involves considering various synonyms and exploring potential hormonal influences, particularly in males. The development of seromas is intricately linked to anomalies in the development of auricular cartilage and can lead to recurrent episodes. Histological examinations provide insights into the composition of seromas, indicating the significance of inflammatory markers and immune response.

As demonstrated in the case of a 35-year-old male, aspiration with intralesional steroid injection emerges as a practical and minimally invasive outpatient procedure. The technique, involving careful steps to prevent complications, demonstrates efficacy in resolving swelling with low recurrence rates. This underscores the potential of the treatment modality in preserving auricular structure and preventing complications associated with untreated seromas.

The comprehensive overview provided in this article encompasses the clinical, histological, and therapeutic aspects of auricular seroma. The challenges in managing this condition without intervention highlight the importance of adopting effective and patient-friendly procedures. Moving forward, continued research and clinical experiences will contribute to refining treatment strategies and optimizing outcomes for individuals affected by auricular seroma.

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