

Tackling Auricular Seromas The Button and Splint Technique: A Case Report

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ABSTRACT

An auricular seroma is an intracartilaginous cyst defined as the accumulation of sterile, straw-colored fluid within a cyst that lacks an epithelial lining. Medical management has shown limited effectiveness; hence, surgical intervention is considered the best option. Here we report a case of a 25 year old intellectually challenged female who presented with a swelling of left pinna and was clinically diagnosed as left auricular seroma. She was treated by removing the cyst and underlying unhealthy cartilage, followed by the application of sterilized buttons and plastic splints to prevent recurrence. The main aim of this treatment modality is the conservation and restoration of the anatomical structure of the pinna and prevention of recurrence.

Keywords: Auricular Seroma, Surgical Deroofing, Pseudocyst Pinna.

*See End Note for complete author details

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INTRODUCTION

An auricular seroma is an intracartilaginous cyst defined as the accumulation of sterile, straw-colored fluid within a cyst that lacks an epithelial lining.¹ These typically occur in adult men between 30 and 40 years of age. The higher prevalence in males is attributed to the differential effects of estrogen and testosterone in inducing cytokines, primarily IL-1.² This condition has also been referred to as an endochondral pseudocyst, intracartilaginous auricular seroma cyst, cystic chondromalacia, and benign idiopathic cystic chondromalacia.³ It is most commonly located in the triangular fossa.⁴ Diagnosis is based on the clinical characteristics and no evidence of infection. If left untreated, it can lead to permanent deformity of the auricle. Medical management has shown limited effectiveness; hence, surgical intervention is considered the best option. Resection of the anterior cartilaginous leaflet of the pseudocysts with repositioning of the overlying skin

flap or the so-called deroofing technique followed by buttoning is seen to produce best results in the literature⁵ and was hence chosen as the treatment modality in this case.

CASE REPORT

A 25-year-old intellectually challenged female presented with an asymptomatic swelling of the left pinna, which had persisted for three weeks. There was no history of trauma. She had a similar history in the past, which was managed conservatively at a nearby hospital. However, there was no associated ear discharge, ear pain, hard of hearing, insect bite. The overall well being was preserved and systemic examination didn't reveal any significant findings. On examination, there was a diffuse swelling (**Figure 1**) involving scaphoid, triangular and cymba concha of left pinna. It had a smooth surface, was soft in consistency and cystic in nature. There was no surrounding erythema. The swelling was non tender and skin over



Figure 1. Pre-operative image

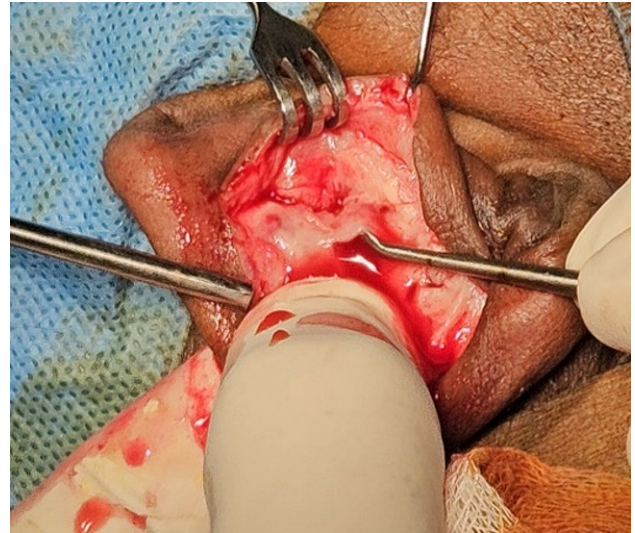


Figure 2. Gush of straw coloured fluid

the swelling was pinchable. There was no local rise of temperature. No special imaging modalities were done. General investigations for pre anaesthesia work up was done and she was posted for surgical deroofting and buttoning under general anaesthesia.

After local infiltration with 2% lignocaine (1:200,000 adrenaline), an incision was made along the anterior margin of the seroma. After extending the incision, the skin flap was elevated, exposing the anterior cartilage. The cyst wall was excised which was followed by a gush of straw coloured clear fluid (**Figure 2**) from within it. Degenerated parts of anterior cartilage was removed and the granulation tissue was curetted. The posterior cartilage was kept intact. The skin flap was

repositioned and sutured using 3-0 nylon. Pressure was applied by placement of sterilised buttons and plastic splints both anteriorly and posteriorly (**Figure 3**) which was secured using sutures to prevent repeated seroma formation. Postoperatively, intravenous antibiotics were given and no dressing was required and the buttons and splints were removed after 2 weeks of surgical procedure.

DISCUSSION

Pseudocyst of the pinna has also been referred to as an intracartilaginous cyst, an endochondral pseudocyst, and cystic chondromalacia of the auricle.⁶ The first

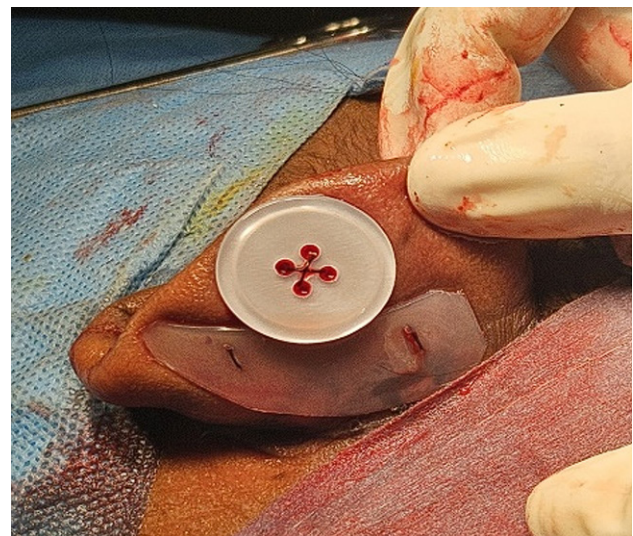


Figure 3. Placement of sterilised buttons and plastic splints anteriorly and posteriorly



Figure 4. Third post operative week

report of pseudocyst of pinna was by Hartmann, who described 12 cases of intracartilaginous cyst-like swelling of the pinna. Hansen⁷ reported a similar series of six cases in otherwise healthy Caucasian males and labelled them as intracartilaginous cysts but agreed that the term pseudocyst is more appropriate. Majority of the pseudocysts were involving scaphoid fossa, triangular fossa, and antihelix followed by concha. Engel⁸ and Cohen and Grossman also cited the scaphoid fossa and triangular fossa of the antihelix as the main sites of predilection. In this condition there is a spontaneous accumulation of sterile fluid in the intercartilaginous plane, presenting as a painless cystic swelling on the upper portion of the pinna, with normal overlying skin.⁹

Histologically, pseudocyst is characterized by an intracartilaginous cavity lacking in epithelial lining (hence named pseudocyst), and contain thinned cartilage and hyalinising degeneration along the internal border of the cystic space and granulation tissue.⁴ The differential diagnosis of this condition includes cellulitis, relapsing polychondritis, chondrodermatitis helices, and subperichondrial hematoma secondary to trauma.⁴

Although the exact etiology of auricular pseudocyst remains unknown, several theories have been proposed. The first theory suggests that the pseudocyst is often the result of repeated minor low grade trauma, such as rubbing, pulling the ear, sleeping on hard pillows or wearing a motorcycle helmet or headphones leading to overproduction of glycosaminoglycans resulting in formation of microcysts which coalesce to form a large

lesion or pseudocyst with elevated isoenzymes LDH-4 and LDH-5.¹⁰

Chronic trauma has also been suggested as a cause, potentially inducing cartilage degeneration, which leads to progressive dilation and the formation of a cystic space within the auricular cartilage.¹¹ The second theory attributed a congenital embryologic defect of the auricular cartilage in the development of the pseudocyst. The congenital maldevelopment of first and second branchial arch may result in residual tissue planes within the cartilage which may later reopen, giving rise to a pseudocyst.

There is much controversy regarding the management of pseudocyst pinna. Restoration of the normal architecture of the auricle with no recurrence is the main goal of the treatment. Various treatments reported in literature include simple aspiration, intralesional injection of corticosteroids and aspiration in combination with bolstered pressure sutures or plaster of paris cast.¹²

Resection of the anterior cartilaginous leaflet of the pseudocysts with repositioning of the overlying skin flap or the so-called deroofing technique followed by buttoning is seen to produce best results in the literature. Surgical deroofing of the pseudocyst was first described by Choi¹¹ in 31 patients with no recurrence and cosmetically good results in 90% of the patients. He had used contour dressings for compression. Lim¹³ modified this technique by using buttoning as a compression method, in 41 patients and reported no recurrence with good cosmetic outcome in all the patients. Chang¹⁴ reported similar results in 10 patients of pseudocyst in whom deroofing was done. The use of buttons was first described in otolaryngology literature as a method to maintain adequate localized pressure in the ear in patients with auricular hematoma. Further literatures comparing the various treatment options for auricular seroma showed that surgical deroofing with buttoning resulted in lesser rate of recurrence and the chance of developing any structural deformity was also minimal.

Surgical deroofing with buttoning was chosen as the treatment of choice as buttoning offers a better and a more constant compression as compared to contour dressings. Buttons are easy to apply, is aesthetically appealing and is patient friendly as it avoids the

need for large bandages or postoperative drains. This method effectively resolved the condition while preserving the normal contour of the ear, with the additional benefit of minimal scarring.

END NOTE

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REFERENCES

1. Hrishita Shirsath, Shraddha Jain. Seroma of auricle. Cureus. 2022 Nov 7;14
2. Sheetal Raj, Deviprasad Shetty. Aspiration and steroid injection- An effective approach for Auricular Seroma. Iran J Otorhinolaryngol. 2019 Sep; 31(106): 267-271
3. Nazir A Khan, Mudasir ul Islam, Ayaz ur Rehman. Pseudocyst of pinna and its treatment with surgical deroofing: An experience at Tertiary Hospitals. J Surg Tech Case Rep. 2013 Jul- Dec 5(2): 72-77.
4. Ramadass T, Ayyaswamy G. Pseudocyst of auricle- etiopathogenesis, treatment update and lieterature review. Indian J Otolaryngol Head Neck Surg. 2006; 58:156-9.
5. Lee YK, Ku BS, Kim YH. A case of pseudocyst of the auricle treated by incisional biopsy. Korean J Dermatol. 2007; 45:518-20.
6. Cohen PR, Grossman ME. Pseudocyst of the auricle. Case report and world literature review. Arch Otolaryngol Head Neck Surg 1990; 116: 1202-4.
7. Hansen JE. Pseudocyst of the auricle in Caucasians. Arch Otolaryngol 1967; 85: 1-13
8. Engel D. Pseudocyst of the auricle in Chinese. Arch otolaryngol 1966; 83:197-202.
9. Glamb R, Kim R. Pseudocyst of the auricle. J Am Acad Dermatol 1984; 11: 58-63.
10. H Miyamoto, M Okajima, I Takahashi. Lactate dehydrogenase isoenzyme in and ntralesional steroid injection therapy for pseudocyst of the auricle . Int J Dermatol. 2001;40:380-84.
11. Choi S, Lam KH, Chan KW et al. Endochondral pseudocyst of the auricle in Chinese. ArchOtolaryngol 1984; 110:792-96.
12. Hoffmann TJ, Richardson TF, Jacobs RJ et al. Pseudocyst of the auricle. J Dermatol Surg Oncol 1993; 19: 259-62.
13. Lim CM, Goh YH, Chao SS et al. Pseudocyst of the auricle, a histological perspective. Laryngoscope 2004; 114: 1281-4
14. C Chang, W Kuo C Lin, L Wang, K Ho, K Tsia. Deroofing Surgical treatment for pseudocyst of the auricle. The Journal of Otolaryngology. 2004;33 (3):177-80