Pseudocyst of the auricle: management options

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Abstract

Background & Aims: Pseudocyst of auricle otherwise called as auricular seroma is a cystic swelling filled with serous fluid. It occurs spontaneously or following surgery or trauma. Successful treatment of seromas remain a challenge because this disease has a high propensity for recurrence. The aim was to study the role of triamcinolone in reducing recurrence of pseudocyst of the auricle. Materials and methods: A total of 50 patients with pseudocyst of auricle were randomized into two groups. They were followed up to a year for recurrence. The technique of intra-lesional injection of triamcinolone acetoniode after aspirating the fluid was followed in one group as against aspiration and tight bandaging in another group. Results: Out of seroma patients who underwent aspiration and bandaging, 90.91% had recurrence as against only 25.64% recurrence in patients who underwent aspiration and Inj.Triamcinolone infiltration. Out of seroma patients who underwent aspiration and bandaging 54.55% had recurrence within 1 month of initial treatment and 27.27% of them had a second recurrence within 3 months. Conclusion: Intra-lesional injection of triamcinolone is a promising treatment option for management of auricular seroma. It prevents the recurrence also.

Key words: ear cyst, pinna swelling, idiopathic cystic chondromalacia, steroids injection, compression bandaging, recurrence

Introduction

The pseudocyst of auricle otherwise called as auricular seroma is a rare and benign condition of the ear that is caused by intracartilaginous collection of serous fluid in the anterior aspect of the auricle. It is unilateral, asymptomatic, cystic swelling of the helix or the antihelix, most often located in the scaphoid fossa. The auricular pseudo cyst has a cavity that is not lined by epithelium. The term pseudo cyst of the auricle was first defined by Hartman in 1846. The etiology is still unclear, and the condition tends to recur. It can also occur following trauma to the pinna, buttoning of pinna and repeated aspiration.

The success rates of different treatment modalities for seroma vary markedly. Present treatment consists of needle aspiration or drainage of the fluid with application of a compression bandage (mastoid bandage) to the pinna. Drainage is necessary to prevent necrosis of the cartilage. Short course of antibiotics, steroid and anti-inflammatory drugs are given. But the frustrating point is that seroma of pinna is known for its recurrence. So we did a study on reduction of recurrence rate of seroma following intra-lesional injection of triamcinolone.

Materials and methods

The study was conducted in Sri Manakula Vinayagar Medical College, Puducherry between Jan 2006 - Dec 2010. A total of 50 Patients were diagnosed having auricular seroma. Among these, 37 patients were males and 13 were females of age from 18 years to 38 years (Mean age 26 years). None of these patients had history of trauma. Swelling was of sudden onset and progressive. All the patients presented with swelling in the pinna without pain and fever. (Fig. 1 and 2). Thirty nine patients underwent aspiration followed by Triamcinolone injection and 11 underwent aspiration and bolster dressing only. (Table 1). Patients were chosen by simple random allocation.
Patients were informed about the procedure beforehand and consent was obtained. With strict aseptic precautions without local anesthesia, a 5cc syringe with needle was used and fluid was aspirated from most prominent part of swelling. With the same needle normal saline was injected and rinsed again and again till the returns were clear. Then Injection Triamcinolone acetonide 20mg injected into the pseudo cystic cavity. No pressure bandage was applied and patient was asked to come after two weeks. The other group was subjected to aspiration under aseptic conditions followed by tight bolster dressing, the classical way. The recurrence of seroma was analyzed both in latency (Table 2) and how many recurrences patient had before the disease abated spontaneously (Table 3).

Results

Recurrence of seroma was noted in 90.91% of patients who underwent aspiration and bandaging as against only 25.64% who underwent aspiration and Inj.Triamcinolone infiltration. (Table 2) 54.55% of seroma patients underwent bandaging had their first recurrence within a month of their initial management as against only 20.51% of them underwent triamcinolone injection (p value = 0.0264). 27.27% of them had a second recurrence within 3 months. (p value = 0.0306). one patient had a third recurrence in both the groups, but since the sample size was small, there was no statistically significant data on comparison (p value = 0.3292). Hence we found out that, Aspiration and Inj.Triamcinolone had a lesser recurrence than the conventional Aspiration and bandaging technique (Table 3).

Discussion

Auricular pseudocysts are rare, asymptomatic, cystic swellings of the pinna that result from an accumulation of sterile fluid within an unlined intracartilaginous space\textsuperscript{3}. There is usually no history of trauma or preceding inflammation\textsuperscript{3}. This rare disorder results from spontaneous accumulation of a sterile, oily yellowish fluid, resembling olive oil. Bacterial and fungal cultures are always negative\textsuperscript{4}. While pseudocysts can occur anywhere on the auricle, up to 80% occur in the scaphoid fossa. The right side is favored slightly (59%). Men are affected more often than women. Pseudocysts can occur in any age group, although most patients are young (often in their 30's) and healthy. It is mostly observed in young adult males and presents clinically as a solitary, fluctuant, non-inflammatory swelling of the upper portion of the auricle with normal overlying skin\textsuperscript{4,5}. Our findings are consistent with the aforesaid statement.

The pathogenesis is unknown. One theory suggests that defective embryogenesis plays a role. A potential space develops during the complex formation of the auricular cartilage. Prominences on the first and second branchial arches fold and fuse around the first branchial groove\textsuperscript{4}. Later in life, abnormal chondrocyte lysosomal enzyme release dissolves the endochondrium, creating an intracartilaginous true space, or pseudocyst. Another theory proposes that the avascular hyaline cartilage of the auricle necrosis following repeated contact of the auricle (which lacks subcutaneous tissue) with the unpadded skull. A third theory is that repeated minor trauma of the locus minoris resistentiae causes cartilage fragmentation and subsequent cystic cavity formation\textsuperscript{6}.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|}
\hline
 & Aspiration & Aspiration & Total \\
& & & \\
Males & 30 (81.08\%) & 7 (18.9\%) & 37 \\
Females & 9 (69.2\%) & 4 (30.7\%) & 13 \\
Total & 39 & 11 & 50 \\
\hline
\end{tabular}
\caption{Shows different management modalities adopted}
\end{table}

\(\chi^2 = 0.2481; \ p \text{ value} = 0.6184;\) there is no significant difference in distribution of cases among the two modalities.
Table 2:
 Shows number of patients having recurrence with time

<table>
<thead>
<tr>
<th>Time gap for recurrence</th>
<th>Aspiration &amp; Inj. Triamcinolone n = 39</th>
<th>Aspiration &amp; Bandaging n = 11</th>
<th>$\chi^2$ value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>8 (20.51%)</td>
<td>6 (54.55%)</td>
<td>4.9293</td>
<td>0.0264</td>
</tr>
<tr>
<td>1-3 months</td>
<td>2 (5.13%)</td>
<td>3 (27.27%)</td>
<td>4.675</td>
<td>0.0306</td>
</tr>
<tr>
<td>3-6 months</td>
<td>0 (0%)</td>
<td>1 (9.09%)</td>
<td>3.6178</td>
<td>0.0571</td>
</tr>
</tbody>
</table>

Table 3:
 Shows number of recurrences with each management modality

<table>
<thead>
<tr>
<th>No. of recurrences</th>
<th>Aspiration &amp; Inj. Triamcinolone n = 39</th>
<th>Aspiration &amp; Bandaging n = 11</th>
<th>$\chi^2$ value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st recurrence</td>
<td>7 (17.95%)</td>
<td>6 (54.55%)</td>
<td>5.9726</td>
<td>0.0145</td>
</tr>
<tr>
<td>2nd recurrence</td>
<td>2 (5.13%)</td>
<td>3 (27.27%)</td>
<td>4.675</td>
<td>0.0306</td>
</tr>
<tr>
<td>3rd recurrence</td>
<td>1 (2.06%)</td>
<td>1 (9.09%)</td>
<td>0.9518</td>
<td>0.3292</td>
</tr>
</tbody>
</table>

Idiopathic cystic chondromalacia is believed to originate during this fusion and folding process when potential planes and spaces are created in areas of decreased structural resistance. Cysts can occur in these potential planes and spaces of the cartilage. The other theory to explain it is related to abnormal lysozymal enzyme release that causes cartilage degradation and cyst formation.

A pseudocyst of the auricle is an intracartilaginous cystic swelling of the anterior auricle. The cause is uncertain, and most patients deny any history of inflammation or trauma.

For treatment of pseudocysts and seromas, aspiration alone with incision and drainage have been described in the literature, but recurrence rates with these methods have been high. More aggressive methods have been proposed, i.e. incision and drainage with cyst curettage and a compressive dressing, incision and drainage with intracavitary injection of iodine or trichloroacetic acid with or without bolster placement, aspiration followed by intralesional and oral steroid administration, aspiration with long-term placement of a custom bolster made of a prosthetic material, and excision of the cyst and its wall.

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. More invasive techniques like incision and drainage of the cavity followed by its obliteration by curettage, sclerosing agent and pressure dressing; open deroofing that involves removal of the anterior cartilaginous leaflet of pseudocyst with repositioning of the overlying flap of skin have also been recommended. However, the invasive treatment modalities carry the risk of perichondritis complicated by formation of floppy ear or cauliflower deformity and may be followed by recurrences.

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success rates are highly variable. We suggest that the needle aspiration and intralesional steroid injection therapy are minimally invasive, easy to apply in an office setting, gives a good cosmetic outcome and recurrence is also prevented.

Complications associated with intra-lesional steroid administration such as skin, soft tissue and cartilage atrophy, skin pigmentation changes and potential systemic side effects were not seen in our cases. Eventually we think that, in non-traumatic cases this technique can be performed confidently and successfully.

References


