

Surgical Deroofing and Rubber Compression Treatment for Pseudocyst of the Auricle: Report of Two Cases

Aurikuler Psödokist Tedavisinde "Deroofing" Prosedürünü Takiben Enjektör Lastiği ile Baskı Tedavisi: İki Olgu Sunumu

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Abstract

Pseudocyst of the auricle is a benign condition characterized by the non-inflammatory swelling of the ear. It is usually located within the scaphoid and triangular fossa. Although minor trauma is accepted to be the most probable cause, the exact etiology remains unclear. In this article we present two cases of this rare condition in two male patients, one 22 years old presenting with unilateral and one 28 years old presenting with bilateral pseudocysts of the auricle, and summarize the differential diagnosis, treatment options, and pathogenesis. In both cases we performed a deroofing procedure followed by compression with a reshaped rubber of the syringe piston. At the end of the six-month follow-up one patient had no recurrence and had excellent cosmetic results. The other patient was evaluated on the third postoperative day and had no recurrence with satisfactory cosmetic results. Many treatment options have been reported for pseudocyst of the auricle. The lowest recurrence rates are reported with the deroofing procedure, and this technique provides cosmetically acceptable results. Many materials have been used for compression after surgery in the literature. The rubber of the syringe piston has not been used before. It is a cheap, effective, and convenient way of compression.

Keywords: Auricular pseudocyst, compression, idiopathic cystic chondromalacia

Öz

Aurikuler psödokist, genellikle skafoid ve trianguler fossada lokalize olan, kulakta noninflamatuvar şişme ile karakterize benign bir durumdur. Etiyoloji henüz tam olarak aydınlatılamamıştır ve minör travma en sık sorumlu tutulan etkidir. Çalışmamızda bu nadir hastalığa sahip olan iki olguyu sunduk ve hastalığın ayırıcı tanısı, patogenezi ve tedavi seçenekleri hakkında bir derleme yaptık. 22 yaşında bir erkek hasta unilateral ve 28 yaşında bir erkek hasta bilateral aurikuler psödokist tanısıyla opere edildi. Hastalara "deroofing" prosedürü ve takiben enjektör pistonu lastiğinin kesilerek şekil verilmiş haliyle baskılı pansuman yapıldı. Altı aylık takip sonrası bir hastada nüks gözlenmedi ve kozmetik olarak tatmin edici sonuçlar elde edildi. Diğer hasta postop üçüncü gün değerlendirildi. Nüks yoktu ve kozmetik olarak tatmin edici sonuç elde edildiği görüldü. Hasta kontrole gelemediğinden uzun dönem takibi yapılamadı. Aurikuler psödokist için pek çok tedavi seçeneği önerilmiştir. En düşük nüks oranlarının "deroofing" prosedürü uygulanması sonucu olduğu görülmüştür ve bu yöntemle kozmetik olarak iyi sonuçlar elde edilmiştir. Cerrahi sonrası baskılı pansuman için literatürde pek çok materyal bildirilmiştir. Enjektör pistonunun lastiği daha önce hiç kullanılmamıştır. Bu yöntem ucuz, etkili, elde etmesi ve uygulaması kolay bir yöntemdir.

Anahtar Sözcükler: Aurikuler psödokist, kompresyon, idiyatik kistik kondromalazi

INTRODUCTION

Pseudocyst of the auricle is a benign, non-inflammatory swelling of the ear, which is caused by serous fluid accumulation in the intracartilaginous cavity. This condition is also known as enchondral pseudocyst or idiopathic cystic chondromalacia. The common sites are cyma concha, scaphoid fossa, and triangular fossa.¹ The condition was first described by Hartmann in 1846, and the term "pseudocyst" was first defined by Engel.^{2,3} Histologically, the intracartilaginous cyst has no epithelial lining and contains straw- or yellow-colored viscous fluid that is comparable to plasma in terms of osmotic, as well as glucose and protein concentrations.⁴ The history of repeated microtrauma caused by using earphones and wearing helmets is one of the most blamed causes.¹ Some con-

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ditions have to be considered within the differential diagnosis, such as cauliflower ear, subperichondrial hematoma, traumatic perichondritis, polychondritis, and chondrodermatitis nodularis helices. The differential diagnosis can be made when the straw- or yellow-colored fluid is seen after incising the lesion.

The aim of the treatment should be to preserve the normal architecture and obtain acceptable cosmetic results with no recurrence. A large number of treatment modalities have been described in the literature for this condition. Aspiration of the effusion after contour dressing usually causes re-accumulation of the fluid.⁵ Intralesional injection of various agents, such as corticosteroid, 50% trichloroacetic acid, bleomycin, or fibrin glue, have also been employed for its treatment.⁶⁻⁸

Surgical deroofing procedure was first described by Choi et al.¹ and modified by Lim et al.¹ using buttoning as a compression method, which resulted in the significant decrease of recurrence rates with good cosmetic outcome in all patients. We reshaped and used the rubber of the syringe piston for compression, a technique which has not been previously described in the literature. The aim of our study was to demonstrate the effectiveness of surgical deroofing with rubber compression. Our study was conducted in accordance with the Helsinki Declaration. Written informed consents were obtained from the patients.

CASE REPORTS

Case 1: A 22-year-old man presented with a one-month history of painless swelling of his left upper half of the ear. There was no history of major trauma or microtrauma to the auricle. On physical examination there was a non-tender 2×3 cm fluctuant swelling of his left ear on the scaphoid and triangular fossa with normal overlying skin (Figure 1.a). The lesion was diagnosed as an auricular pseudocyst based on history and clinical findings. The patient's left ear was scrubbed with 10% povidone iodine solution. Field block anesthesia was obtained with 1% lidocaine with epinephrine 1/200,000. A 2.5-cm curvilinear incision was made over the lesion, and the skin flap was then gently elevated and retracted away from the lesion allowing the abnormal cartilage to be visualized. An incision was then made through the anterior leaflet of cartilage, which caused a yellowish fluid to come out, and then the anterior leaflet of the cartilage was removed leaving the posterior leaflet intact. The anterior wall was weaker in structure. The cavity was irrigated with sterile saline. After hemostasis with bipolar cautery, the skin was sutured with 5/0 prolene sutures (Figure 1.b). The rubber on the piston of a 50-cc syringe was then resized according to the size and location of the cyst. The incision was then dressed with a thin layer of sterile gauze and the resized rubber was sutured on both anterior and posterior aspects of the ear with its convex surface compressing the anterior, and its concave surface compressing the posterior of the ear. Postoperatively, antibiotics with anti-inflammatory drugs were given for one week. The rubber was removed on



Figure 1.a-d. (a) Preoperative view; (b) Peroperative view; (c) Postoperative 6 months; (d) Piston and rubber of the syringe.

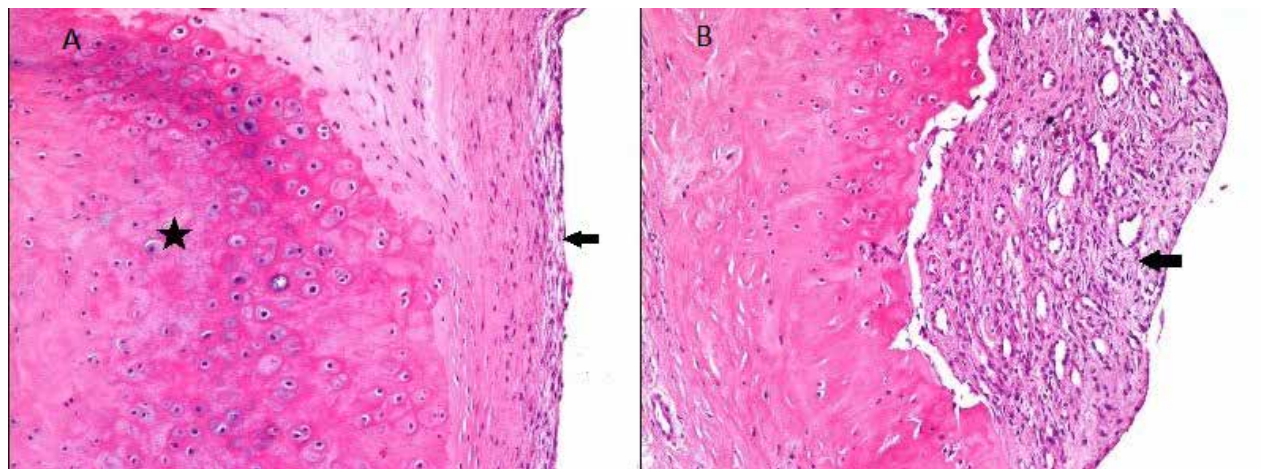


Figure 2.a,b. (a) Cyst lining with lack of epithelium marked with arrow and degenerated cartilage marked with star (×100 H&E); (b) Granulation tissue on the internal aspect (×s100 H&E).

the third day, and the stitches were removed one week after the surgery. During the six-month postoperative follow-up there was no evidence of recurrence and a satisfactory cosmetic result was observed (Figures 1.c-d). Histopathologic evaluation found the cyst lining to contain degenerated cartilage and lack epithelium. In one area granulation of the tissue was seen on the internal aspect (Figure 2).

Case 2: A 28-year-old man presented with a 10-year history of swelling in both ears. It had been aspirated one year ago in another clinic and recurred. He had no history of major trauma or microtrauma (Figure 3). On physical examination, there was a non-tender 4x2.5 cm fluctuant swelling of his left and 1.5x2 cm on his right ear on the scaphoid and triangular fossa with normal overlying skin. The same procedure was applied bilaterally to the patient. The dressings were removed on the third day after the surgery. He had satisfactory cosmetic results and no recurrence (Figure 4). The patient could not come for long-term follow up. Histopathologic evaluation showed the cyst lining to contain degenerated cartilage and lack epithelium (Figure 5).

DISCUSSION

Currently there is no gold standard for the treatment of this condition. The most commonly employed non-surgical treatment is aspiration of the pseudocyst followed by injection of various agents, such as corticosteroid or trichloroacetic acid.^{6,7} However, these methods often result in recurrences or auricular deformity. Another non-surgical treatment option is drainage with compression. Kanotra et al.⁵ reported that 13 patients underwent incision and drainage with curettage followed by buttoning. Five of them showed recurrence and three of them showed permanent thickening of the auricular cartilage. Surgical deroofing followed by the compression method has the lowest recurrence rates. Shan et al.⁹ have applied surgical deroofing to 87 patients with recurrence in one case. In another study conducted by Bhat et al.¹⁰, 30 patients underwent surgical deroofing of the pseudocyst along with compression by buttoning. The patients were followed up for six months during which there was only one recurrence. Because of the successful results and low recurrence rates, we preferred the surgical deroofing procedure followed by compression. One of our patients had no recurrence and had satisfactory cosmetic results during the six-month follow-up. The



Figure 3.a,b. (a) Preoperative view of the left ear; (b) Preoperative view of the right ear.

second patient was evaluated on the third day postoperative; he had no recurrence and had satisfactory cosmetic results. The second patient could not come for long-term follow-up.

Many compression methods have been used either with surgical and non-surgical methods. Most authors report to have used clothing buttons for compression.¹⁰ Clothing buttons have to be sterilized before the operation and they cannot be reshaped according to the size of the cyst. Kim et al.⁶ used clips for compression after steroid injection to the cyst. Clips, too, should be sterilized before the application and they do not provide adequate compression. Kindem et al.¹¹ used thermoplastic splint, and Salgado et al.¹² used an ear prosthesis for compression; these are rather expensive materials and they should be placed in hot water to be reshaped before usage.

In our operations, we used the rubber at the top of the syringe piston for compression. It is cheap, easy to obtain in the operating room, and sterile. It has a concave and convex surface, is easy to mold and re-shape to the lesion size. We sutured the convex surface to the anterior and the concave surface to the posterior of the upper one-third of the ear to apply equal compression on both sides of the pinna to eliminate the dead cavity. Compression of syringe rubber is firm and can provide



Figure 4.a,b. (a) Compressive dressing with syringe rubber; (b) Postoperative third day

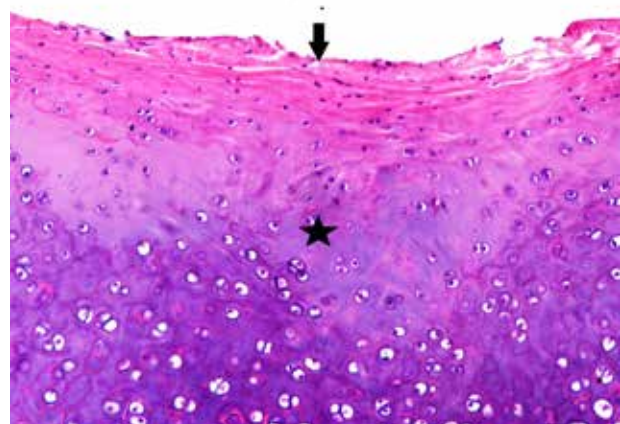


Figure 5. Cyst lining with lack of epithelium marked with arrow and degenerated cartilage marked with star (-100 H&E).

equal pressure on both sides of the pinna, and it does not cause discomfort to the patient.

CONCLUSION

In conclusion, we suggest that auricular pseudocysts can be safely treated with surgical deroofing and rubber compression method. This procedure has low recurrence rates and good cosmetic outcomes. Here we present a new compression technique that has not been previously described.

Hasta Onamı: Yazılı hasta onamı bu olguya katılan hastadan alınmıştır.

Hakem Değerlendirmesi: Dış bağımsız.

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