

Original Research Article

Comparison of various pressure methods along with aspiration in treatment of auricular seroma

Niral R. Modi, Sanjay M. Tota*

Department of Otorhinolaryngology and Head and Neck Surgery, M. P. Shah Medical College and G. G. Hospital
Jamnagar, Gujarat, India

Received: 08 April 2019

Revised: 06 November 2019

Accepted: 07 November 2019

***Correspondence:**

Dr. Sanjay M. Tota,

E-mail: docsanjayent@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Auricular seroma or pseudocyst is soft cystic swelling on the pinna due to collection of intra cartilaginous fluid. The successful management of auricular seroma by aspiration and pressure remains a challenge as this disease has high recurrence rate.

Methods: A total 28 patients with auricular seroma were treated by aspiration and different methods of pressure modalities as corrugated rubber splint, button, mastoid dressing and plaster of paris and their results were compared in this study.

Results: No any recurrence of seroma and any complication occur after rubber splint pressure application. Post procedure complain like fever, pain, oedema, perichondritis and recurrence are more present in button, mastoid dressing and plaster of Paris pressure application.

Conclusions: Aspiration and pressure application with rubber splint provides very simple, minimally invasive and effective management of auricular seroma. It is cost effective give uniform pressure and less traumatic to skin. Pressure with rubber splint method has low recurrence rate and as there is no need of mastoid bandage so less social embracement.

Keywords: Aspiration, Auricular seroma, Corrugated rubber splint

INTRODUCTION

Pseudocyst of auricle pinna also known as auricular seroma is a benign condition of ear. It is caused by intracartilagenous collection of serous fluid in pinna. Pseudocyst of pinna first reported by hartman in 1846 and first described by engel in English literature in 1996.¹ It is not lined by epithelium that why it called pseudocyst.² Majority of cysts located in the scaphoid and the triangular fossa. It ranges usually from 1 cm to 5 cm in diameter. It is present as a spontaneous accumulation of a sterile, oily, yellowish fluid and clinically as painless, solitary, fluctuant; non inflammatory dome shaped cystic swelling on the pinna.

The etiology still remains unclear. It is a degenerative process of unknown cause occurring in auricular cartilage leading to the formation of a cavity containing a yellow fluid which is sterile. It may result due to blunt trauma. Analysis of cytokines profile of fluid indicates markedly elevated level of IL-6, which is believed to stimulate chondrocyte proliferation. IL-1, an important mediatory of inflammation and cartilage destruction induce IL-6. IL-1 also chondrocyte to synthesise protease and prostaglandin-e2 while inhibiting the formation of extracellular matrix components.³ Auricular psuedocyst results after repeated minor trauma as ear pulling, sleeping on hard pillows, wearing motor-cycle helmet or

earphones. It suggested that this minor trauma may be the mechanism in support of this etiology.⁴

Most auricular seroma are unilateral and occur in men aged 30-40 years, but lesion are also documented in patients ranging in age from 18-85 years.⁵ The success rate of different treatment modalities varies as it is known for recurrence.

Treatment of seroma requires aspiration and pressure application. In our study we applied different type of pressure application along with aspiration like mastoid dressing, button application, rubber splint application and pressure with plaster of paris. We compare this different modality of pressure in treatment of seroma.

METHODS

This is a retrospective study of 28 cases of auricular seroma presented to department of ENT and head and neck surgery, Shree M. P. Shah Government Medical College and G. G. Hospital Jamnagar during December 2017 to January 2019. In all cases, thorough history was taken and complete clinical examination of ear nose and throat was done. In all cases routine blood investigations and ultrasound was done. In our study we were not include patients having painful seroma and seroma with perichondritis. We involve all age group patients with complain of auricular painless seroma by trauma or idiopathic.



Figure 1: Rubber splint applied in seroma of left pinna.

All patients treated with aspiration and different methods of pressure application. Under strict aseptic precaution all seromas are aspirated with large bore needle and different type of pressure given in different patients. Out of 28, in 7 patients we applied rubber splint on both side of pinna after aspiration (Figure 1). We made rubber splint from

Foleys catheter rubber, size and shape of splint was tailored according the site and size of the seroma. Rubber splint was fixed with 3-0 silk suture, no mastoid bandage given. In 7 patients, we applied sterile buttons on either side of pinna with 3-0 silk suture for pressure after aspiration of seroma (Figure 2). Topical antibiotic ointment applied in pressure with button and rubber splint. In 7 patients, we had done aspiration and mastoid dressing for pressure (Figure 3). Aspiration and plaster of paris mould pressure applied at the site of seroma in 7 patients. All patients were on oral antibiotic and oral anti-inflammatory drugs for seven days. After three days the patient reviewed and rubber splint removed. In button applied group of patients reviewed after seven days and buttons removed. All patients were examined after 3 days, 7 days, 3 weeks and 6 weeks after treatment for any complication or recurrence and data was collected.



Figure 2: Pressure applied by button.



Figure 3: Left side ear seroma pressure applied by mastoid dressing.



Figure 4: Follow up result of rubber splint application after 5 days.

RESULTS

Out of 28 patients, 20 patients were males and 8 patients were females. The mean age of patients at presentation was 24 years. About 21 patients had swelling in right ear and rest patient had swellings in left ear.

Out of 7 patients treated with aspiration and pressure with rubber splint application, no one had any recurrence on follow-up within 3 months, one patient having thick skin of pinna.

Out of 7 patients treated with aspiration and button pressure application, 2 patients had recurrence fluid collection, 2 patients developed perichondritis after treatment.

Out of 7 patients treated with aspiration and mastoid dressing, 5 patients had having recurrence fluid collection and repeated aspiration with bandage required, 1 patient developed perichondritis.

Out of 7 patients treated with aspiration and plaster of paris mould pressure, 2 patients had recurrence, 1 had perichondritis and 1 patient had contact dermatitis.

Table 1: Recurrence and complication in various pressure methods.

Methods of pressure	Recurrence (approx.) (%)	Complication (%)
Rubber splint (7)	0 (0)	0 (0)
Plaster of paris (7)	2 (30)	2 (30)
Mastoid bandage (7)	5 (70)	1 (15)
Button (7)	2 (30)	2 (30)

Table 2: Development of perichondritis.

Methods of pressure	Number of patient develop perichondritis
Rubber splint	0
Plaster of paris	1
Mastoid bandage	1
Button	2

DISCUSSION

Recurrence of the auricular seroma is very high. Seroma usually treated by aspiration and compression bandage⁶. It is difficult to maintain uniform pressure on the both sides of pinna after aspiration. To prevent recollection, O'Donnell and Eliezri suggest excising a disc of cartilage and perichondrium to cure recurrent seromas⁴. Placement of continues portable suction drain that remains at the incision site is a treatment option that have been advocated. The intralesional injection of triamcilone as a treatment option for auricular seroma has been useful.⁷

In our experience we have proposed that auricular seroma treatment by aspiration and rubber splint pressure is better than other pressure dressing modalities (Figure 4). Recurrence rate are high in button (30%), mastoid dressing (70%) and plaster of paris mould (15%) pressure application as compare to rubber splint (0%). Perichondritis and other complication are less in rubber splint pressure application after aspiration in seroma. Rubber splint pressure is removed only after 3 days so no prolong follow up needed no social embracement as there is no need of mastoid bandage. Easy availability and simple procedure of aspiration and rubber splint pressure in auricular seroma likely better than aspiration and button or plaster of paris mould pressure application. In other method like use of button for pressure application, we observe skin thickening and development of perichondritis due to over pressure of hard button. In case of mastoid bandage there was no uniform pressure over desired area so more chances of recollection and repeated aspirations required and also social stigma of mastoid bandage was there. In cases of use of plaster of paris mould as a pressure application we found contact dermatitis with recollection of fluid.

So better treatment outcome in form of fluid recollection, appearance of pinna, post treatment skin involvement, development of perichondritis and socially acceptable external appearance, we observed that rubber splint pressure method is better as compare to other pressure application methods.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Engel D. Pseudocyst of auricle in Chinese. *Arch Otolaryngol.* 1966;83(3):197-202.
2. Hansen JE. Pseudocyst of the auricle in Caucasians. *Arch otolaryngol.* 1967;85(1):13-4.
3. Miyamoto H, Okajima M, Takahashi I. Lactate dehydrogenase isozymes in and intralesional steroid injection therapy for pseudocyst of auricle. *Int J Dermatol.* 2001;40:380-4.
4. O'donnell BP, Eliezri YD. The surgical treatment of traumatic hematoma of the auricle. *Dermatol Surg.* 1999;25:803-5.
5. Naik K. Seroma of auricle: opening new doors over window. *Int J Otorhinolaryngol Clin.* 2011;3:88-9.
6. Purwar A, Shetty V, Khanna S, Gupta S. PRESSURE appliance to prevent the recurrence of auricular seroma: a new clinical trial. *J Oral Biol Craniofac Res.* 2013;3:42-4.
7. Kim TY, Kim DH, Yoon MS. Treatment of recurrent auricular pseudocyst with intralesional steroid injection and clip compression dressing. *Dermatol Surg.* 2009;35:245-7.

Cite this article as: Modi NR, Tota SM. Comparison of various pressure methods along with aspiration in treatment of auricular seroma. *Int J Otorhinolaryngol Head Neck Surg* 2020;6:74-7.