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EXTENDED SUPRA AURICULAR APPROACH FOR MANAGEMENT OF PREAURICULAR SINUS

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ABSTRACT

Objective: To know the efficacy of extended supra auricular approach for excision of pre auricular sinus.
Method: over a period of 6 years 45 surgeries of preauricular sinus were done by extended supra auricular approach and the recurrence rate was observed.
Results: out of 45 surgeries recurrence noticed only in 1 case (2.2% only) over an observation period of 1 year which is lower than the other approaches.
Conclusion: Extended supra auricular approach is a safe and recurrence free surgical modality for excision of pre auricular sinus.

KEYWORDS: preauricular sinus, extended supra auricular approach

INTRODUCTION

Pre auricular sinus is a benign congenital malformation of the pre auricular soft tissue. Classically it manifest as a small opening usually near the anterior limb of ascending helix. It occurs during auricular development due to defective or incomplete fusion of auricular hillocks.[1] It is often asymptomatic but recurrent infections with pain, swelling, abscess formation needs medical attention and requires surgical excision.[2]

Various surgical techniques have been described in literature with varied recurrence rates. Incomplete excision is the primary cause of recurrence. The recurrence rates have been reported as high as 42% [3] and as low as zero percent.[4] To minimize recurrence several methods have been described for complete excision of the tract by improving the identification of the entire duct system either by insertion of probe or by instillation of methylene blue[5] or by expanding the area of resection.[6]

In this case series extended supra auricular approach is adopted to observe the recurrence rate of this disease which is known for it's high recurrence.

AIM OF THE STUDY

To observe the efficacy of extended supra auricular approach in the surgical excision of preauricular sinus in terms of recurrence rate and complications.

MATERIAL & METHOD

This study was carried in the Department of ENT , IMS & SUM Hospital, Bhubaneswar, between December 2008 to November 2015. 39 cases of preauricular sinus who had under gone surgery by extended supra auricular approach are included in this study. As it is a congenital disease and noticed in neonatal babies also but surgery was performed only after the child attains 5 years of age.

As per the protocol, acutely infected cases were first treated with a course of antibiotics and cases of abscess by incision & drainage. In all these cases surgery has been delayed until the signs of inflammation subsided.

Younger patients up to the age of 13 and other apprehensive & uncooperative patients were operated under general anesthesia and all other patients under local anesthesia.

Under strict aseptic measures an eleptical incision is made around the sinus pit and the incision is extended to the supra auricular area and few millimeter to the post auricular region **{fig-1}.** The incision is gradually taken deep until the plane of temporalis fascia is reached **{fig-2}.** The entire soft tissue between the plane of the temporalis fascia and the skin anterior to the sinus is excised along with a piece of adjoining helical cartilage **{fig-3}.** This ensures complete removal of the tract with all its branches which minimizes the recurrence rate. After thorough cleaning with saline & beta dine wound closure is done in layers with a corrugated drain and pressure dressing. Drain is removed after 24 hours and sutures are removed after 7th post operative day. All cases are followed up once in a week for 4 week and once in 3 month for 1 year.

{fig-1} incision

{fig-2} plane of temporalis fascia exposed

{fig-3} entire soft tissue along with a piece of cartilage excised}

OBSERVATION

39 patients were included in this study who had undergone surgery by extended supra auricular approach. Out of this 39 patients 23 were male (59%) and 16 were females (41%) [table-1]. 28 cases had unilateral defect (71.8%) where as only 11 cases had bilateral defect (28.2%) [table-2]. Out of these 11 cases 6 cases underwent bilateral surgery. The total number of surgical excision included in this case series are 45. Seven cases that had undergone

surgery earlier at other places but developed recurrence of the disease were also included in this case series.

Table-1, sex distribution (n=39)

Sex	numbers	Percentage
Male	23	59%
Female	16	16%

Table-2, age distribution (n=39)

0-10	11	25.6%
11-20	15	38.4%
21-30	8	20.5%
31-40	4	10.2%
41-50	1	2.5%

Table -3 (location), (n=39)

Right side	12	30.7%
Left side	16	41%
Bilateral	11	28.2%
Unilateral(right+left)	28	71.8%

Among the presenting symptoms 34 cases (87.1%) presented with history of recurrent infection, pain & swelling. 5 cases presented with first attack of acute infection, 3 cases with acute abscess and 6 cases with history of repeated abscess & repeated incision & drainage done outside.

Table-4 recurrence rate (n=45) 1 year follow up period

recurrence	1	2.2%
No recurrence (success)	44	97.8%

In this case series it has been observed that in all 45 surgeries (out of 39 patients) recurrence was encountered only in one case ie.2.2%. The success rate found in this case series is 97.8%. No recurrence also observed in 6 revision cases. Table-4

DISCUSSION

Congenital preauricular sinus was first described by Heusinger in 1864.[7] The incidence of preauricular sinus varies from 0.02 to 5%.[8] They are mostly unilateral (80%) and vary from simple congenital pit to a complex branching sinus.[9]

The auricle develops from 6th week of gestation from 6 mesenchymal proliferations known as Hilloks of HIS. 3 of them arise from 1st brachial arch and the other 3 from the 2nd brachial arch. These Hilloks fuse to form the auricle. The incomplete or defective fusion of these hillocks attributes to the formation of preauricular sinus.[10] Asymptomatic cases do not need any treatment but surgical excision is required for cases with recurrent infections.

The standard technique for excision of sinus tract involves an elliptical incision around the sinus pit with prior methylene blue injection into the tract and subsequent dissection of the tract to the cyst near the helix. As the recurrence rate is high in this technique various other techniques has been described but yet no single technique is accepted as the gold standard.

As the incomplete excision is the cause of recurrence, a more radical supra auricular approach with wide local excision was first described by Prasad etal in 1990.[3] Lam etal in 2001 compared the standard technique with the extended supra auricular technique and observed a statistically significant low recurrence rate in the 2nd technique.[11]

In this series it is observed that males are affected more than the females,59% & 41% respectively. MS Gohar etal reported a similar observation of male to female ratio being 3:2.[12] 71.8% of cases of this series are unilateral and the most common presentation is recurrent infection. MS Gohar etal also reported recurrent infection in 87% of cases in his case series.[12]

In this study all patients had undergone surgical excision by extended supra auricular approach with recurrence rate of 2.2% which is much lower than the standard technique. H Vijayendra etal in their study of 36 cases in 2005 observed no recurrence at all in supra auricular approach.[13] In another study using the same technique KVSK Chowdary etal in 2012 reported a similar result of zero recurrence rate in 34 cases with a follow up period of 9 years.[14]

CONCLUSION:

Many surgical techniques have been proposed for excision of preauricular sinus but with variable acceptance. Extended supra auricular approach is the technique where recurrence rate is very low in comparison to the other technique. Quite a few studies also reported zero recurrence in this technique. Moreover this is a very simple technique which does not need any learning curve.

REFERENCES:

1. T Tan, H Constantinides, TE Mitchel, The preauricular sinus :A review of its etiology,clinical presentation and management, International Journal of pediatric Otorhinolaryngology,V0l-69,NO-11,2005,P1469-74.
2. Scheinfeld NS, Silverberg NB, Weinberg JM, Nozad V: The preauricular sinus: A review of its clinical presentation, treatment and association, Pediatric Dermatol2004,May-June,21(3),p191-93.
3. Prasad S, Grundfast K, Milmore G: Management of Congenital Preauricular Pit and Sinus tract in Children, Laryngoscope,1990,100: p 320-21.
4. Currie AR, King WWK, Vlantis AC, Li AKC: Pitfalls in the management of preauricular sinuses, Br J Surg.1996,83,p1722-24.
5. E Gur, A Yeung, M Azzawai and H Thomson: The Excised Preauricular Sinus in 14 years of experience: Is there a problem, Plastic & Reconstructive surgery, Vol102,No-5,1998,p1405-08.
6. 6. RJBD Jong: A New Surgical Technique for Treatment of Preauricular Sinus: Surgery, Vol 137,NO.5,2005 P567-70.
7. Heusinger, HK Fistelin: Von Noch Nicht Beobachteter, Arch Pathol Anat29:358 p 1864
8. Chami RG, Apesos J: Treatment of asymptomatic preauricular sinuses : Challenging Conventional Wisdom: Ann Plast Surg,1989, Vol 23 p406.
9. Abuja AT, Marshall JN, Roebuck DJ, King AD, Metreweli C: Sonographic Appearances of Preauricular Sinus: Clin Radiol 2000, Vol 55,p 528-32.
10. Sadler TW, Langman's Medical Embryology. 6 . Baltimore: Williams & Wilkins:1990 p 334-5.
11. Lam HCK, Soo G, Wormald PJ, Van Hasselt CA: Excision of the preauricular sinus: A comparison of two surgical techniques: Laryngoscope,2011 Vol 111 p 317-19.
12. MS Gohar, K Maqsood, MO Rafique, H Nazir, MF Khan, S Khan: Preauricular sinus and its management by supra auricular approach: Pakistan Journal of Medical and Health Sciences, Vol-3,NO-3,July-Sept 2009 p208-10
13. H Vijayendra, R Sangeetha, KR Chetty: A Safe & reliable technique in manage ment of preauricular sinus : Indian Journal of Otolaryngology and Head and Neck Surgery, vol 57,No 4,Oct-Dec,2005 p294-5.
14. KVSK Chowdary, NS Chandra, RK Madesh: Preauricular Sinus: A Novel Approach: Indian Journal of Otolaryngology and Head and Neck Surgery, 2013,July,65(3),p234-36