ORIGINAL ARTICLE

PERITONSILLAR ABSCESS: CLINICAL PRESENTATION AND EFFICACY OF INCISION AND DRAINAGE UNDER LOCAL ANAESTHESIA

Muhammad Ismail Khan, Asmatullah Khan*, Muhammad**

Department of ENT, Gomal Medical College, DI Khan, *Khyber Girls Medical College, Peshawar, **Department of Ophthalmology, Gomal Medical College, DI Khan, Pakistan

Background: Peritonsillar abscess (PTA) is one of the most commonly encountered abscess in the head and neck region. The aims of this study were to list the frequency of the disease by age, sex and laterality, and to list the presentation of the disease by symptoms, signs and complications, and to determine the efficacy of incision and drainage (I&D) procedure under local anaesthesia (LA) in terms of hospital stay and recurrence. **Methods:** This descriptive study was conducted at the Department of Otorhinolaryngology and Head & Neck Surgery, District Headquarters Hospital, Lakki Marwat, from 1st June 2007 to 30th May 2010. Adult patients (>15 years) of both sexes with unilateral peritonsillar abscess were included sequentially. Children (15 years or less), patients with acute follicular tonsillitis or peritonsillitis and those who refused incision and drainage under LA were excluded. All patients received the same antibiotic Amoxicillin/Clavunate and underwent I&D procedure under LA. **Results:** Sixty patients were included in the study, 42 male and 18 female. Mean age of the patients was 30.02±9.42 (range 16–50 years). It was more on the left side (35, 58.35%). Forty-four (73.35%) patients gave an antecedent history of tonsillitis. Three (5%) patients presented with complications. Mean hospital stay was 1.55±1.00 (range 1–5 days). All patients underwent I&D with no recurrence. Interval tonsillectomy was performed in 38 selected cases after 6 weeks. **Conclusion:** Incision and drainage under LA still remains the gold standard procedure for peritonsillar abscess in our setup.

Keywords: Peritonsillar abscess, incision and drainage, tonsillectomy

INTRODUCTION

Peritonsillar abscess (PTA) is a localized accumulation of pus within the peritonsillar space, which usually results from acute tonsillitis and subsequent peritonsillar cellulites. The disease is one of the most common ear, nose, and throat (ENT) emergencies. It may present by sore throat, trismus, muffled speech, dehydration, odynophagia, drooling of saliva, swinging temperature and intense pain.[1] It requires quick and effective surgical management for proper relief of symptoms and to avoid serious complications like acute airway compromise. The highest incidence of PTA is found in adults 20–40 years of age.[2] Usual causative bacteria seemed to alter from gram-positive cocci (mainly streptococcus b-hemolytic group A) to anaerobes and gram-negative rods.[3] Treatment varies at different centers.[4,5] The generally accepted classic treatment consists of either per-mucosal aspiration or incision and drainage.[6]

The aims of this study were to: 1. List the frequency of the disease by age, sex and laterality 2. List the presentation of the disease by symptoms, signs and complications and 3. Determine the efficacy of incision and drainage procedure under LA in terms of hospital stay and its recurrence.

MATERIAL AND METHODS

This descriptive observational study was conducted in the Department of Otorhinolaryngology and Head & Neck Surgery, District Head quarter Hospital, Lakki Marwat from 1st June 2007 to 30th May 2010. Patients of both genders having age >15 years with unilateral peritonsillar abscess (quinsy) were included sequentially. Patients aged less than 15 years, with acute follicular tonsillitis, or peritonsillitis (confirmed by negative needle aspiration of pus), and those who refused incision and drainage under LA were excluded. All patients were admitted. A written informed consent containing terms of inclusion in study, benefits and risks involved, was obtained from each patient. Detailed history and examination was carried out.

The following criterion was used for confirmation of peritonsillar abscess: swollen ipsilateral upper pole of the tonsil with congested anterior pillar, presence of trismus, swollen and deviated uvula towards the opposite side and positive needle aspiration of the pus.

Routine urine examination, complete blood count, blood sugar, serum urea and electrolytes, HBsAg and Anti-HCV were carried out for all patients.

All surgeries were uneventful and performed by the same surgeon. Incision and drainage was done after applying 10% xylocaine topical spray to the affected side followed by 2% xylocaine with adrenaline (1:200,000 parts) infiltration. A small curvilinear incision was made in the mucosa with a 15-size surgical blade either over the most fluctuant part of the swelling or in the mucosa just lateral to the junction of uvula and soft palate. A blunt artery forceps was placed into the

wound and spread until adequate drainage was achieved.

All patients received the same preoperative and postoperative therapy, i.e., 12-hourly intravenous Amoxicillin/Clavunate 1.2 grams for the first day and thereby 12-hourly orally 1 gram for next six days. Added to this were parenteral/oral diclofenac sodium, pyodine mouth wash, and where required, intravenous rehydration with Ringer Lactate.

Patients were re-examined at one-month intervals for three months for evidence of recurrence. Interval tonsillectomy was carried out in all the recurrent cases of PTA after 6 weeks and also in those patients who had history of recurrent tonsillitis in the past few years (3-5 attacks/year for last 2–3 years).

A performa was used for each patient and data were analysed using SPSS-8.

RESULTS

A total of sixty patients were included in this study in which male 42 (70%) out-numbered the females 18 (30%). Mean age of the patients was 30.02±9.42 years (range 16–50 years) (Table-1).

Table-1: Age and gender wise distribution of the patients (n=60)

Age (Yrs)	Total	%	Male	%	Female	%
16-20	12	20.00	7	11.65	5	08.35
21-25	10	16.65	8	13.35	2	03.35
26-30	12	20.00	6	10.00	6	10.00
31–35	07	11.65	3	05.00	4	06.65
36–40	11	18.35	10	16.65	1	01.65
41–45	03	05.00	3	05.00	-	-
46–50	05	08.35	5	08.35	-	-

Out of these, 35 patients (58.35%) had a left side PTA, while 25 (41.65%) cases had a right side PTA. Majority of the patients, i.e., 44 (73.35%) gave a positive history for recurrent tonsillitis in the past. Regarding clinical presentations of PTA at the time of admission, sore throat, fever, odynophagia, swelling and deviation of the uvula and trismus were present in all most all of the patients, while halitosis, enlarged neck lymph nodes and drooling of saliva were seen in 41 (68.35%), 35 (58.35%), and 26 (43.35%) patients respectively. Twenty two (36.65%) patients were dehydrated at the time of presentation. There were 8 (13.35%) patients who were hospitalized in past more than once having different recurrent episodes of PTA: six patients had two different episodes while two patients had three different episodes (Table-2). Mean hospital stay was 1.5±1.00 days (range 1-5days). (Figure-1). Two (3.33%) patients had complications, namely one parapharyngeal space abscesses and one airway obstruction due to supraglottic oedema. These patients required a longer hospital stay as compared to non-complicated PTA. Incision and drainage was done in all patients with no complications and/ or failures. In our series none of the patient developed recurrent PTA during follow up visits. Out of total 60 patients, 38 (63.35%) cases underwent interval tonsillectomy after six weeks, including all those patients with recurrent PTAs.

Table-2: Demographic profile and clinical presentations of patients with PTA (n=60)

Characteristics	Cases	Percentage
Sex		
Male	42	70
Female	18	30
Laterality		
Right	25	41.7
Left	35	58.3
History of recurrent tonsillitis	44	73.3
Previous history of PTA	8	13.5
Clinical presentations		
Sore throat	60	100
Fever	60	100
Odynophagia	60	100
Otalgia	52	86.5
Trismus	55	91.65
Drooling of saliva	26	43.35
Muffled speech	44	73.35
Lymphadenopathy	35	58.35
Halitosis	41	68.35
Dehydration	22	36.65
Swelling and deviation of uvula	60	100
Complications of PTA		
Airway obstruction	1	1.7
Para pharyngeal space abscess	2	3.3

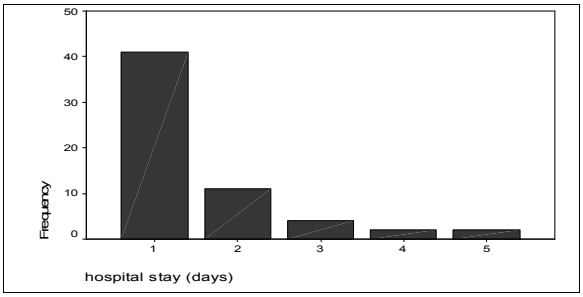

Figure-2: Hospital stay of the patients (n=58)

DISCUSSION

Pertitonsillar abscess is a disease usually affecting young adults of 20 and 40 years. The age range of our patients is similar to that in the study by Hasan *et al*.[7] Contrary to our results, a retrospective study of 724 patients with PTA from Japan reported an estimated rate of 25% of patients aged years 40 or older[8] while in the study by Schraff S et al; all of the patients were from pediatric age group.[9] Our study is consistent with other studies in showing male preponderance.[10,11] But an equal distribution between two sexes has been reported in a study from UK.[12] All cases were unilateral as well as predominant left side involvement which is noted similarly in other retrospective studies as well.[6,10] But in a western study the incidence of bilateral PTA has been reported to be between 3.9–6.5%.[13] Bilateral PTAs can present as a diagnostic challenge as the uvula might not be deviated which a common physical examination is finding for typical PTAs.

Majority of the patients presented with sore throat, fever, odynophagia, and tsrismus supported by other studies.[6,10] Odynophagia is due to inflammation of

the constrictor muscles of the pharynx especially the superior constrictor muscle, which forms the lateral boundary of the peritonsillar space, while trismus is caused by the inflammation and spasm of muscles of mastication mainly the medial pterygoid muscle which is in close proximity to the peritonsillar space. Trismus is the main culprit for dehydration in PTA patients because they are unable to open the mouth and reluctant to eat or drink.[11] Referred otalgia and lymphadenopathy were noted in 86% and 52% respectively. Almost similar results were reported in another study. It is actually a referred type otalgia caused by the common sensory innervation of the two areas, i.e., ear and peritonsillar space by the glossopharyngeal nerve.[6]

Complications of PTA arises when the infection gets spread beyond the confines of the peritonsillar space into the nearby neck spaces especially the parapharyngeal space or along the carotid sheath into the mediastinum leading to fatal outcome. Spontaneous rupture of PTA either through the tonsil or anterior pillar has been reported if remained untreated.[14] In our study we encountered three complications due to PTA, i.e., two parapharyngeal space abscesses and one airway obstruction due to supraglottic edema. In a local study no such complication has been reported[10], but a study by Ong YK from Singapore has reported a single case of retropharyngeal space abscess due to PTA.[15] When treated early with appropriate antibiotics and drainage, these complications have become rare.

In our study 13.35% patients gave a past history of recurrent PTA, in other studies no previous positive history was documented.[6,7] While another study has reported an incidence of 23–74% of recurrent attacks of PTA in their patients.[16]

In our series all patients were treated with incision and drainage under local anaesthesia followed by intravenous antibiotics with no failures. Same results are also mentioned in other studies as well.[6,10,15] Incision and drainage is the most common method of drainage used. The pain disappears almost immediately after drainage and also there is dramatic improvement in trismus as well. However this procedure is not free of complications like aspiration of purulent material, bleeding and rarely, false aneurysm of the internal carotid artery, but these appears to be uncommon. Fortunately in our series there was no reported complication as a result of the procedure supported by another study.[15]

Interval tonsillectomy was performed after 6 weeks in 38 patients with a history of recurrent attacks of PTA and those with history of recurrent tonsillitis.[17] In our series none of the patient presented with recurrence during follow-up visits matching the results of other studies.[6] But contrary to our findings Ong YK has reported an incidence of 7.6% in his series.[15]

CONCLUSION

Incision and drainage still remains the gold standard drainage procedure for peritonsillar abscess in our setup. Interval tonsillectomy should be advised in selected cases only.

REFRENCES

1. Khayr W. Taepke J. Management of peritonsillar abscess: needle aspiration versus incision and drainage versus tonsillectomy. Am J Therapeutics 2005; 12:344–50.
2. Steyer TE. Peritonsillar abscess: diagnosis and treatment. Am Fam Physcian 2002; 65:93-6.
3. Megalamani GS, Suria G, Manickan U, Balasubramanian D, Jothimahalingam S.. Changing trends bacteriology of peritonsillar abscess. J Laryngol Otol 2007; 27:1–3.
4. Ono K, Hirayama C, Ishii K, Okamoto Y, Hidaka H. Emergency airway management of patients with peritonsillar abscess. J Anesth 2004; 18(1):55–8.
5. Ozbeck C, Aygenc E, Tuna EU, Selcuk A. Ozdem C. Use of steroids in treatment of peritonsillar abscess. J Laryngol Otol 2004;118(6):439–42.
6. Tyagi V, Kaushal A, Garg D, De S, Nagpure P. Treatment of peritonsillar abscess- A prospective study of aspiration versus incision and drainage. Calicut Med J 2011;9(3):e3.
7. Hasan ZU, Akbar F, Saeedullah. Optimum treatment of peritonsillar abscess. Pak J Otolaryngol 2005; 21:50–2.
8. Mastuda A, Ianaka H, Kanaya T, Kamata K, Hasegawa M. Peritonsillar abscess: a study of 724 cases in Japan. Ear Nose Throat J 2002;81:384–9.
9. Schraff S, McGinn JD, Derkay CS. Peritonsillar abscess in children: a 10-year review of diagnosis and management. Int J Pediatr Otolaryngol 2001; 57:213–8.
10. Iqbal SM, Husain A, Mughal S, Khan IZ, Khan IA. Peritonsillar cellulites and quinsy, clinical presentation and management. Armed Forces Med J 2009;59(4):275–80.
11. Shaikh RK. Treatment of peritonsillar abscess and role of steroids. J Liquat Uni Med Health Sci 2008;1:31–33.
12. Kara N, Spinou C. Appropriate antibiotics for peritonsillar abscess- a 9 month cohort. Otorhinolaryngologia Head Neck Surg 2010;40:20–4.
13. Watanabe T, Suzuki M. Bilateral peritonsillar abscesses: our experience and clinical features. Ann Otol Rhinol Laryngol 2010;10:662–6.
14. Mehmood T, Irshad-ul-Haq M. Presentation and management of peritonsillar sepsis. J Coll Physcian Surg Pak 2000;10(6):209–12.
15. Ong YK, Goh YH, Lee YL. Peritonsillar infections: local experience. Singapore Med J 2004;45(3):105–9.
16. Irani BS, Martin-Hirsch D, Lannigan F. Infection of the neck spaces: a present day complication. J Laryngol Otol 1992;106:455–8.
17. Harris WE. Is a single quinsy an indication of tonsillectomy? Clin Otolaryngol 1991;16:271–3.

Address for Correspondence:

Dr. Muhammad Ismail Khan, Department of ENT, Gomal Medical College, DI Khan, Pakistan. **Cell:** +92-312-5962259
Email: drmuhammadismail1976@yahoo.com