

PERITONSILLAR CELLULITIS AND QUINSY, CLINICAL PRESENTATION AND MANAGEMENT

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ABSTRACT

Objective: The study was done to find the various clinical presentations and compare the outcome / prognosis of peritonsillar cellulitis and quinsy.

Study Design: A Descriptive study.

Place & Duration of Study: Department of ENT and Head & Neck surgery Jinnah Medical & Dental College and Fatima Hospital, Baqai Medical University Karachi, from May 2001 to June 2006.

Patients & Methods: This is a retrospective study of the treatment and their outcome of 102 patients, 73 (71.6%) had peritonsillar abscess or quinsy while 29 (28.4%) had peritonsillar cellulitis who were treated indoors over a period of five years.

Results: The main modality of treatment was incision & drainage of pus in 73 (71.6%) patients and needle aspiration in 29 (28.4 %) cases which resulted with 3 positive 26 negative and 5 false negative aspirates. Antibiotics given in combinations with an average stay of 5 to 8 days in the ward. Within 2 to 5 months 12 (11.7 %) cases had recurrence, while none had bilateral quinsy. Tonsillectomy was done in 35 (34.3 %) patients after 6 weeks.

Conclusions: In peritonsillar infections needle aspiration is useful to differentiate between the two entities. Cellulitis usually resolves by intravenous antibiotics, when an abscess is suspected incision and drainage remains the gold standard treatment which is followed by antibiotics and tonsillectomy in selected cases.

Keywords: Peritonsillar cellulitis & Quinsy, Incision & drainage, Needle aspiration, Tonsillectomy.

INTRODUCTION

Peritonsillar infection means a spectrum of diseases i.e. from peritonsillar cellulitis to abscess formation called quinsy. Peritonsillar abscess or quinsy is the collection of pus between fibrous capsule of the tonsil & the superior constrictor muscles of the pharynx at the upper pole and it is distinguished from initial cellulitis stage which is also called peritonsillitis or phlegmon [1]. The true pathogenesis is unknown. The widely accepted theory says that it occurs as a complication of an acute exudative tonsillitis while another theory proposes the involvement of webbers or minor salivary glands located deep at the upper pole of the tonsil. Abscess formation of these glands results in quinsy [2]. The incidence of peritonsillar abscess in USA is about 30 per

100,000 person years, accounting for approximately 45,000 cases annually [3]. In United Kingdom, it averages 13 adult cases per 100,000 people [4].

The condition is very unpleasant and painful but may become serious and potentially life threatening because if untreated, it may lead to a variety of serious complications e.g. progression of infection to parapharyngeal, sub maxillary or retropharyngeal space, thrombophlebitis with intermittent flow of pus and spontaneous rupture with the risk of pulmonary aspiration [5]. Peritonsillar abscess, therefore, warrants evacuation of pus and antimicrobial therapy [6].

Evacuation of pus may be achieved by needle aspiration or by incision and drainage procedure with almost equally good results. Needle aspiration as an out patient procedure is being practiced by many ENT surgeons [7]. Surgical intervention i.e. Tonsillectomy has been recommended to prevent future recurrence and complications. Immediate

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(abscess) tonsillectomy has been advocated as a mean of abscess drainage in both adults and in children [8]. Although surgical drainage of the abscess remains the cornerstone of the therapy, there is no agreement on the treatment of patients with peritonsillar abscess but initial surgical drainage followed by antibiotics therapy remains the mainstay of management. Controversies also exist regarding the use of antibiotics after drainage of pus & the role of routine bacterial culture and tonsillectomy.

The peritonsillar cellulitis and peritonsillar abscess being interrelated are essentially different grades of the same infective process. Clinically there is not much of difference in the presentation of the two entities. However the immediate treatment / management being slightly different. The study is being made to find the various clinical presentation and compare the outcome / prognosis of their management.

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PATIENTS AND METHODS

A total of 102 patients with peritonsillar infections who were admitted in the ENT ward of Jinnah Medical College and Baqai Medical University from May 2001 to June 2006 were studied. It was a descriptive study. Detailed history regarding age, gender, occupation, socio-economic & hygienic condition including episodes of sore throat and its duration, fever, otalgia, drooling of saliva and previous history of any drug therapy were recorded. General physical examination including complete blood count, urine examination, blood sugar, urea & serum electrolyte were also done. The trismus & halitosis if present were also noted categorically in every patient of peritonsillar infection.

All those patients having acute follicular tonsillitis and / or recurrent / chronic tonsillitis were excluded from our study.

One hundred and two patients were admitted & clinically diagnosed as peritonsillar infections. All 102 cases of peritonsillar cellulitis & peritonsillar abscess were unilateral. In the beginning each case was diagnosed as either peritonsillar cellulitis i.e. without swollen upper pole of the tonsil & no trismus, or peritonsillar abscess (quinsy) with swollen & congested anterior pillar & ipsilateral tonsil with yellow spot and trismus.

In 21 patients of peritonsillar cellulitis and in 08 early suspected cases of peritonsillar abscess, needle aspiration was done (in 29 (28.4%) patients) via 16G needle on 10 ml disposable syringes. Out of 29 the pus (02 ml) was aspirated in only 03 patients which was sent for culture and sensitivity. All these cases were hospitalized also for I/V antibiotics, antinflammatory agents, analgesics, antiseptic mouth wash and hydration therapy. Our therapeutic protocol were intravenous cephadrine 500 mg I/V x 8 hourly for 7 days then orally for next 3 days, and metronidazole 500 mg I/V x 12 hourly for 5 days then 400mg orally for 5 days more. But only 05 patients with negative needle aspiration for pus did not responded with antibiotics even after 48 hours and there was further increase in severity of symptoms like drooling of saliva, muffled voice and trismus and were dealt with incision and drainage.

Patients with peritonsillar abscess and trismus were immediately admitted and incision and drainage was the main procedure undertaken in 73 (71.6%) cases. Following the use of local anaesthetic (2% xylocaine with insulin syringe) a classical incision was given and a haemostat was introduced into the wound, thus adequate drainage of pus was achieved. Aspirated pus of 63 cases was sent for culture and sensitivity while in 10 patients gushed out pus was not sent for culture and sensitivity.

After the incision & drainage all these cases of peritonsillar abscess were started on

cephradine 500 mg I/V x 8 hourly three days then orally for 8 days along with metranidazole 500 mg I/V x 12 hourly for 2 days then 400 mg for the next 8 days. All these cases were advised to come for followup weekly and report immediately if they again developed unilateral sore throat, fever etc. Tonsillectomy was advised in all recurrent cases and also to those patients who had history of recurrent tonsillitis in the past few years.

RESULTS

A total of 102 patients were admitted over a period of five year. Of these 73 (71.6 %) had peritonsillar abscess and 29 (28.4 %) had peritonsillar cellulitis. Either side was affected as majority 96 (94.1 %) had left side while in 6 (5.9 %) the right tonsil were affected. There was definite male preponderance as 71 (69.6 %) were male and only 31 (30.3 %) were females included in this series. Majority 83 (81.4 %) of our patients were adults i.e. between 16 to 35 years while the minimum age was 15 years and maximum was 45 years as shown in (Table-1).

Mostly patients belonged to low socio-economic class with poor living and hygienic conditions. No noticeable seasonal variation was observed during this study. Types of tonsillar infection is described in (Table-2).

Clinically the progression of peritonsillar infection leads to either cellulitis or abscess (quinsy) have nearly similar presentation, thus very difficult to differentiate between them. Peritonsillar cellulitis patients presented with fever, sore throat, odynophagia while peritonsillar abscess patients presented with progressive worsening of sore throat, dysphagia, referred otalgia, drooling of saliva, muffled voice, deviation of the uvula to one side and trismus.

Our patients presented with few or all

these symptoms like sore throat, fever, odynophagia, otalgia, trismus, drooling of saliva, tender jugulo-digastric lymph nodes, plummy voice and trismus as given in (Table-3).

Needle aspiration was tried in 29 patients, 26 were negative & only 03 had positive aspirate of 2ml pus which was sent for culture and sensitivity. But after 48 hours of antibiotic therapy in 26 cases of negative aspirate 05 patients did not improve at all rather worsening of the symptoms like severe dysphagia, dribbling of saliva and trismus occurred and ended with incision & drainage for the evacuation of pus.

Out of a total of 73 only 63 samples of pus in a sterile dry tube were sent to the laboratory within 30 minutes for culture and sensitivity. In 59 aspirates both aerobic (*Streptococcus pyogenes*, *Haemophilus influenzae*, *Staphylococcus aureus*) and anaerobic (*Fusobacterium*, *Bacteroides*) organisms were isolated, while in 04 aspirates no growth were seen because these patients had used antibiotics (Penicillin and other broadspectrum antibiotics) many days before they reported to our department.

Conservative or medical treatment was given to all 29 (28.4%) cases with peritonsillar cellulitis and in 73 (71.6%) patients of peritonsillar abscess (quinsy) classical incision & drainage followed by antibiotic therapy regimen was pursued. All 102 cases were advised weekly follow up till 6 months. Recurrent cases were seen between 2 to 5 months A total of 12 (11.8 %) recurrent cases, 3 (10.3%) after peritonsillitis and 9 (12.3%) after the treatment of peritonsillar abscess, underwent tonsillectomy after the resolution of this second attack of quinsy. While 23 (22.5%) non recurrent cases were also advised tonsillectomy as they had positive history of recurrent tonsillitis in the past. Only 2 (2%) of

Table-1: Age and gender distribution (n=102)

Sex	0 -15 years	16-35 years	36 -40 years	41 -45 years	Percentage
Male	01	59	10	01	69.6 %
Female	00	24	05	02	30.4 %
Total	01	83	15	03	100 %

them did not turn up for tonsillectomy. Tonsillectomy was done in 35 (34.3%) patients after 6 weeks.

Table-2: Type of Tonsillar infections, Peritonsillar cellulitis or abscess

Types of infection	No. of patients	%
Peritonsillitis	29	28.5 %
Peritonsillar abscess (quinsy)	73	71.5 %
Total	102	100 %

Table-3: Various clinical presentations of peritonsillar cellulitis and abscess (n=102)

Clinical features	Cellulitis (n=29)	Abscess (n=73)
Sore throat	29	73
Fever	29	73
Odynophagia	29	73
Lymphadenitis-jugulo-digastric	29	73
Trismus	00	70
Otalgia	00	65
Dribbling of saliva	03	48
Muffled voice	02	59
Deviation of uvula	00	73

DISCUSSION

Peritonsillar infection is a disease usually affecting the young adults and majority of the patients are between 10 & 40 years of age [9]. It occurs in individuals with recurrent tonsillitis, which is inadequately treated or may occur with no preceding tonsillitis or even after tonsillectomy due to residual tonsillar tissue [10].

In the beginning there is cellulitis stage called peritonsillitis and when frank pus or abscess forms, quinsy develops which is common in adults rare in children and almost unilateral although tonsillitis is usually a disease of childhood and occurs bilaterally [11]. Retrospective studies suggest that the proliferation of anaerobic organisms around the tonsil is possibly the cause [12], while another study showed that the number of patients with peritonsillar abscesses is going up in case chronic tonsillitis is not being treated by surgery [13]. In our study male predominance was noticed i.e 71 (69.6%) versus only 31 (30.3%) females which is

closely similar to another retrospective study [4].

Majority of our cases 83 (81.4 %) were between 15 to 35 years of age which conforms with other studies [6, 14]. All our cases were unilateral with a preponderant 96 (94.1 %) left sided involvement and only 6 (5.9 %) had right tonsillar infection which is noted similarly in another retrospective study 10. Peritonsillar abscess or quinsy was seen in 73 (71.6%) while peritonsillar cellulitis was observed in 29(28.4%) cases. Our series also has similarity to a previous study mentioned in the literature [15].

Peritonsillar infection can spread into the deep neck spaces or along the carotid sheath and may result in fatal neurological sequelae. Spontaneous rupture of peritonsillar abscess or quinsy either through the tonsil or anterior pillar can occur if remained untreated [16]. But when treated early with the appropriate antibiotics and drainage, these complications have become rare. In our study fortunately no such complication was encountered associated with peritonsillar abscess (quinsy).

In peritonsillar cellulitis excellent response was seen with appropriate antibiotics, but in some cases even after 48 hours the response was very poor, which may be due to a potential quinsy which should be aspirated or evacuated followed by tonsillectomy after several weeks if indicated [17,18]. The management of peritonsillar abscess (quinsy) have varied from abscess tonsillectomy to incision drainage or needle aspiration with antibiotic therapy. But the key element is effective abscess drainage & antibiotics which brings about a rapid improvement in the patients condition.

The peritonsillar infection is a polymicrobial disease with predominance of anaerobic than the aerobic organisms and the number of bacteria isolated were larger in patients not previously treated with antibiotics but the use of antimicrobial drugs did not interfere with the type of bacterium isolated. In our c/s report the organisms showed sensitivity with penicillin, cephradine, quinolone, while our regime was

cephradine and metronidazole which proved to be very effective in the resolution of the disease. The result of culture & sensitivity was little or of no use in our series because of delay in the report and most patients improved with empirical antibiotics [19, 21]. Culture results did not affect individual patient treatment, but may have a potentially useful role for selecting empirical antibiotic therapy.

Needle aspiration has become more popular since 1980s. It is simple, easy to perform, cost effective, no anaesthesia is required and mostly pain is relieved after needle aspiration.

Several trials have been performed to compare the efficacy of needle aspiration and incision & drainage. Two of these trials showed high immediate failure rate with needle aspiration [15]. In our series needle aspiration was tried in 29 cases. Only 03 were positive for pus while in 05 patients it was false negative because after 48 hours of antibiotic therapy symptoms worsened with drooling of saliva and trismus. Thus incision and drainage of pus remained the ultimate solution.

Incision and drainage first reported of a peritonsillar abscess was by a French surgeon in 1362. It gives a wider and more thorough drainage & is always used when needle aspiration fails, while aspiration of pus and false aneurysm of internal carotid artery are rare complications. In our 73 (71.5%) cases of peritonsillar abscess or quinsy incision & drainage was carried out to evacuate the pus. All these patients were admitted for parental antibiotic and fluid therapy because of severe trismus and a combination of cephradine, metronidazole for mixed aerobic & anaerobic organisms were given. Though penicillin has been the drug of choice in these infections [19] but our regimen also proved to be equally satisfactory [20].

The outcome of each treatment modality for both peritonsillar cellulitis and peritonsillar abscess (quinsy) in our series were satisfactory. Recurrence in peritonsillar cellulitis had occurred in 3 (10.3%) cases

within 2 to 5 months and in peritonsillar abscess (quinsy) only 9 (12.3%) cases developed recurrent attack of quinsy within 4 to 5 months, which is comparable with some other series treated by incision & drainage [14]. High incidence of recurrence seen in patients of low socio-economic class, less than 40 years of age & those treated by needle aspiration 17, is similar to our study where 9 out of 12 cases with recurrences were below the age of 40, belonged to poor socio-economic group.

A report of previous study showed that each case should be judged individually & tonsillectomy is done in patients with a history of recurrent tonsillitis prior to peritonsillar abscess and 2nd or recurrent attack of peritonsillar infection [17, 22]. In our series a total of 35 (31.3%) patients underwent tonsillectomy, including 12 patients who had a recurrent infection after the initial treatment of peritonsillar infection while 23 were those suffering from recurrent episode of tonsillitis before the first attack of peritonsillar abscess (quinsy).

CONCLUSION

Peritonsillar cellulitis and peritonsillar abscess (quinsy) should be differentiated for successful outcome of their management. Needle aspiration proved to be diagnostic for these two in majority. Antibiotics should be the main treatment modality for both the entities which is followed by tonsillectomy in recurrent cases. A single attack of peritonsillar infection may not be an indication for tonsillectomy as the frequency of recurrence is low. Improvement in health, education, socio-economic status and early treatment can further decrease the frequency of peritonsillar infections.

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