NEEDLE ASPIRATION IN PERITONSILLAR ABSCESS: OUR EXPERIENCE IN CHITWAN
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ABSTRACT
Background: Peritonsillar abscess is one of deep neck space having significant morbidity and mortality. The treatment is still controversial regarding best method to perform. The aim of the study was to study the effect of needle aspiration in the treatment of peritonsillar abscess among the patients of Chitwan Medical College.

Methods: A retrospective study was designed which included all aged patients and were admitted in tertiary centre for peritonsillar abscess treatment between January 2015 to December 2019. All patient was treated with needle aspiration method under local spray anaesthesia and intravenous antibiotics. Number of aspirations, hospital stay, recurrence and complications were assessed as main outcomes. Descriptive analysis was performed by using SPSS version 16.0.

Results: Over 5-year duration, 57 patients were admitted for PTA and included for analysis. About 45(78.9%) of patients were under 40 years. Male dominance of 41(71.6 %) was found. All cases were unilateral and no significant laterality found. All patients had prior medications outside before hospital visit. Length of hospital stay was 3.11+/-.939 days. Single or repeat aspiration of pus showed significant improvement of symptoms. One patient had recurrence and another one case had developed complication.

Conclusions: Our study showed needle aspiration is effective modality for peritonsillar abscess treatment due to early clinical improvement, low recurrence and decrease hospital stay.

INTRODUCTION
Peritonsillar abscess (PTA), also known as Quinsy, is one of neck space abscess where pus is collected between tonsillar capsule and superior constrictor muscle, causes severe morbidity, even fatal if neglected. Due to severity of symptoms like odynophagia, trismus, fever, patients visit emergency as well as ENT department for treatment. The incidence of PTA is 10-37 per 100,000 population with more prevalence in young adult.¹

Most accepted theory of abscess formation is secondary to tonsillitis and presence of Weber’s gland. Due to presence of mixed flora, there is almost common acceptance of using parenteral broad-spectrum antibiotics. Incision and drainage (I & D) and Needle aspiration are two modalities of treatment more accepted, which is followed by intravenous antibiotics having almost same success rate. Treatment modalities differs with different institute's protocol. Needle aspiration is quicker, less painful, easy to perform with less morbidity while incision and drainage has benefit of less recurrence and short hospital stay. Several literatures are found comparing both management procedures showing almost same result. Studies have reported no significance differences between and incision regarding different outcomes like length of stay, resumption of normal diet, recurrence rate,² ³ while few studies have reported in favour of aspiration.² ³ However, Mansour et al has concluded incision has good result.⁴ The aim was to study the effect of needle aspiration in the treatment of peritonsillar abscess among the patients of Chitwan Medical College.

METHODS
A retrospective study was conducted in Department of Ear Nose Throat, Chitwan Medical College, Chitwan, Nepal from January 2015 to December 2019. Institutional ethical clearance was taken. All necessary data were collected from hospital medical records who were hospitalized for confirmed peritonsillar abscess in ENT ward.

All aged patients were included in this study who needed hospital admission, most of time oral treatment was not possible. The evolution time of symptoms, presence of fever, odynophagia, sore throat, trismus was listed. Patient profile with time of admission and discharge as well as medication history prior to hospitalisation was recorded.

Initially a needle aspiration was performed for each clinically diagnosed peritonsillar abscess patient to confirm the diagno-
sis for purulent secretion, to locate the abscess cavity. A wide
bore 18G needle with 10 ml syringe was inserted over the
most bulging area or just outside the meeting point of ante-
rior tonsillar pillar line and uvula base after using 10% lidocaine
spray. The diagnosis of peritonsillar abscess was not confirmed
if the needle aspiration remained negative after one or two
aspirations and was excluded from study. If aspiration of pus
was positive. further additional needle insertions in different
locations may be performed in a single treatment procedure.
All cases were started immediately with intravenous antibiot-
ics, analgesics and intravenous fluids after admission. Routine
haematological investigation was sent.

Absence of fever, start of oral intake, trismus improvement,
pain improvement and decreased local swelling were consid-
ered clinical improvement cure. Length of stay was chosen as a
primary outcome as it is one of best indicators of clinical recov-
ery and success of treatment. Secondary outcomes included
the need of re-aspiration, complication of disease and recur-
rence. Patients were discharged on oral antibiotics with advice
of follow up after 7 days. The data was collected and entered
in Microsoft Excel and then transferred into SPSS version 16.
Descriptive statistical analysis was performed.

RESULTS

Total 57 patients were included in this study. Out of them, 41
were male and 16 females. About 45(78.9%) of patients were
below 40 years in this study. Out of 57 patients, 30(52.6%)
patients had peritonsillar abscess on left side and right-side
involvement was seen in 27 patients (47.4%).

All patients included in the study had some type of
medications before hospital visit. While 29 (50.9%) patients
had ENT consultation on after 3 days of onset of symptoms,
22(38.6%), 6(10.5%) patients consulted after 2 and 4 days
respectively. In this study, 23(40.4%) required single needle
aspiration, 33(57.9%) second aspiration and only 1(1.8%) had
third aspiration. About 55(96.5%) of patients had difficulty of
swallowing at the time of hospital visit and only 33(57.9%)
patients had trismus of varying degree. One patient (1.8%) had
complication. Recurrence was seen in one patient (1.8%) (Table
1).

DISCUSSION

Peritonsillar abscess is the commonest entity among deep neck
space abscess.9 It affects people of all age groups with peak in
the second and third decades of life. In our study majority (79%)
of patients were aged under 40 years.1

Most of PTA are unilateral in nature but may vary on laterality
and gender basis. Dalton et al has reported incidence of bilateral
PTA of 4.9.10 All of our cases had unilateral abscess with laterality
to left side 52.6% with male predominance of 72%.11-13

Patients with PTA generally visit hospital with the chief com-
plaint of difficulty in swallowing and trismus, fever.14 In our
study 55 (96.5%) had difficulty in swallowing while 33 (57.9%)
had trismus. Majority of patients had given history of fever
but afebrile during hospital visit, so fever status was not evalu-
ated. This condition is probably due to antipyretic use before
hospital visit.

Nearly half of the cases (29 out of 57) had consulted our ENT
OPD after 3 days of onset of symptoms. All of them had medi-
cations (oral antibiotics, analgesics, antipyretics oral gargle)
from local pharmacy prior to hospital visit. This is probably due
to self-medication habit in this region which cannot be ignored
and requires further study. Lepelletier et al stated majority of
patients (92%) had consulted within 10 days before admiss-
ion.15

Mainly two modalities of pus drainage is popular among Oto-
aryngologists, incision & drainage (I&D) and needle aspiration.
Powell et al stated that overall there is no convincing evidence
in favour of aspiration or incision and drainage, having recur-
rence of 9-22%.16 However, the use of needle aspiration as pri-
mary treatment modality had also been reported.17

King first described use of wide bore needle Needle1961.18
Needle aspiration is quick and easy to perform procedure with
additional advantages of repetition, less painful. Single setting
of pus aspiration may be enough for diagnosis, treatment and
culture & sensitivity sampling. It also known to have less com-

Table 1: Socio-demographic and clinical characteristics of
peritonsillar abscess

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Frequency (%)</th>
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<tbody>
<tr>
<td>Age groups (years)</td>
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<tr>
<td>11 to 20</td>
<td>18 (31.6)</td>
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<tr>
<td>21-30</td>
<td>19 (33.3)</td>
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<tr>
<td>31-40</td>
<td>8 (14.0)</td>
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<tr>
<td>41-50</td>
<td>7 (12.3)</td>
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<tr>
<td>51-60</td>
<td>5 (8.8)</td>
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<tr>
<td>Sex</td>
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</tr>
<tr>
<td>Male</td>
<td>41 (71.6)</td>
</tr>
<tr>
<td>Female</td>
<td>16 (28.1)</td>
</tr>
<tr>
<td>Side</td>
<td></td>
</tr>
<tr>
<td>Right</td>
<td>27 (47.4)</td>
</tr>
<tr>
<td>Left</td>
<td>30 (52.6)</td>
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<tr>
<td>Onset of symptoms (days)</td>
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<tr>
<td>2</td>
<td>22 (38.6)</td>
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<tr>
<td>3</td>
<td>29 (50.9)</td>
</tr>
<tr>
<td>4</td>
<td>6 (10.5)</td>
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<tr>
<td>Medication before admission</td>
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<td>57 (100)</td>
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<tr>
<td>No of aspiration</td>
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</tr>
<tr>
<td>1st</td>
<td>23 (40.4)</td>
</tr>
<tr>
<td>2nd</td>
<td>33 (57.9)</td>
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<tr>
<td>3rd</td>
<td>1 (1.8)</td>
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<tr>
<td>Duration of stay (days)</td>
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<tr>
<td>2</td>
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<td>15 (26.3)</td>
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<td>5</td>
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<td>Difficulty in food intake</td>
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<td>55 (96.5)</td>
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<tr>
<td>No</td>
<td>2 (3.5)</td>
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<td>Trismus</td>
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<td>33 (57.9)</td>
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<td>No</td>
<td>24 (42.1)</td>
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</tr>
<tr>
<td>No</td>
<td>56 (98.2)</td>
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The effectiveness of needle aspiration as definitive treatment of peritonsillar abscess has also been reported in literature. A study by Bhat et al had shown 90% improvement after 1st aspirations. Our study shows 23 (40.4%) of patients improved on 1st and 33 (57.9%) on 2nd aspiration. Second aspiration was performed on same sitting or next ward visit. Continuous bulging of superior peritonsillar area and/or throat discomfort was indicated for additional aspiration. Only 1 (1.8%) patient needed 3rd aspiration.

Length of hospital stay in our study was 1-5 days, mean of 3.11 +/- 0.939 days. This was supported by Mansour et al, 2019 which showed length of hospital stay in aspiration group of 1-7 days with mean 3 days. Length of hospital stay depended on the basis clinical outcomes - improvement in the oral intake, absence of trismus and afebrile status in our study.

In our study, one patient had recurrence after 7 days of discharge, which was less than stated in other study. The patient was readmitted and same procedure repeated and was cured on 5th day. One patient young adult male had developed complication of parapharyngeal and post triangle neck cellulitis during hospital stay, which had prolonged IV antibiotics and was cured. Study by Klug et al have shown that complications can be seen in patients (male, >40 years) who are treated surgically and is under medication.

The study is not devoid of limitations. The first limitation was the retrospective nature of the study and the data was obtained from medical records. There can be loss of data owing to the fact we had small sample size in this study.

CONCLUSION

Our study confirmed that needle aspiration is effective primary treatment modality for treatment of peritonsillar abscess. It is easy to perform with less complications and short hospital stay reduces financial burden. Further study with large sample size is recommended.

CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

REFERENCES: