

## ORIGINAL ARTICLES

## NEEDLE ASPIRATION AN EQUAL TO INCISION AND DRAINAGE IN MANAGEMENT OF PERITONSILLAR ABSCESS

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## ABSTRACT

**Objective:** To compare needle aspiration with incision and drainage in treatment of Peritonsillar abscess.

**Design:** Randomized Control Trails.

**Place and Duration:** Department of ENT CMH Peshawar from 28th October 2009 to 1st November 2010.

**Patients and Methods:** Fifty patients of either gender presenting with peritonsillar abscess for the first time were randomly divided allocated into two groups A and B. Group A underwent aspiration of pus on day 0 followed by reaspiration on day 1 and 2 if required. Group B underwent incision and drainage and evacuation of pus on day 0 followed by repeat drainage on day 1 if required.

**Results:** In about 72% of cases single needle aspiration was curative while 24% required two and 4% required three aspirations in group A. While in group B 80% of patients were cured with single sitting of incision and drainage and 20% required second sitting of drainage. This difference was statically insignificant ( $p=0.550$ ).

**Conclusion:** Needle aspiration is as an effective method as incision and drainage for management of peritonsillar abscess.

**Keywords:** incision and drainage, needle aspiration, Peritonsillar abscess.

## INTRODUCTION

Peritonsillar abscess is a commonly occurring pathology among fit healthy adults. Rapid treatment is essential to prevent spread of infection to deep neck spaces which can be fatal<sup>1</sup>. The main symptoms of peritonsillar abscess are odynophagia, fever and malaise. Among these odynophagia is the most distressing as it can lead to dehydration in the patient<sup>1,2</sup>.

Treatment of peritonsillar abscess is intraoral drainage of pus followed by antibiotics. Intraoral drainage can be in the form of incision and drainage or needle aspiration without anaesthesia<sup>1,3</sup>. Hot tonsillectomy is another alternative though not largely practiced these days and is fraught with complications<sup>4</sup>. Advocates of incision and drainage method argue that it is an effective method in preventing any reaccumulation by providing continuous drainage through the

incision which is not possible otherwise<sup>5</sup>. Whereas proponents of needle aspiration say that repeat aspirations for up to two days is as effective as incision and drainage and less painful to the patients and patient is pain free earlier<sup>6,7</sup>.

The objective of this study was to determine whether needle aspiration of peritonsillar abscess is as effective as incision and drainage in removal of pus.

## PATIENTS AND METHODS

These randomized control trails were carried out from 28th October 2009 to 1st November 2010 at department of ENT Combined Military Hospital Peshawar after approval of hospital ethics committee. Fifty patients aged 18 to 51 years of either sex, who presented with peritonsillar abscess in ENT OPD Combined Military Hospital Peshawar, were included in the study. Diabetics and patients under 18 years were excluded from the study. These fifty patients were randomly divided into two groups A and B. Twenty five patients of group A were treated with needle aspiration using a 10 cc syringe on day 0 (first

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procedure) and repeat aspirations if required on day 1 (second procedure) and day 2 (third procedure), any patient with persistence of abscess beyond day 2 was subjected to incision and drainage. Patients of group B underwent incision and drainage of abscess using a standard number 12 blade with guard and evacuation with peritonsillar forceps on day 0 (first procedure) followed by repeat drainage if required on day 1 (second procedure). Improvement in patients was determined by examining the patient the next day after the procedure, a reduction in supra tonsillar swelling along with decrease in pain and also improvement in odynophagia were taken as criteria of improvement and termination of surgical attempts.

Patients of both groups were hospitalized and started on intravenous combination of amoxicillin + clavulanic acid in the dose of 1.2 grams thrice a day and shifting to tablet amoxicillin + clavulanic acid (625mg) thrice daily. Analgesia for first three days was provided by intramuscular 75mg diclofenac sodium twice a day and on subsequent days by tablet mefenamic acid 1000mg thrice daily. Chlorhexidine mouthwash was prescribed to all the patients.

Data was analysed using SPSS version 15. Descriptive statistics were used to describe the data. For comparison of quantitative variables independent sample's *t* test was used while for qualitative variables chi-square test was applied. *p*-values <0.05 was considered significant.

## RESULTS

Age of the patients varied from 18 to 51 years. In group A mean age was 32.96±10.73 years, while in group B mean age was 32.44±9.96 years. There were 10 (40%) females in group A and 9 (36%) in group B. Both the groups were comparable with respect to age (*p*>0.05) and gender (*p*>0.05). In group A 18 (72%) patients were successfully treated with single aspiration where as 6 (24%) required two and only 1 (4%) patient required repeat aspiration on day 2. None of the patients had persistence of pus beyond day 2. In group A only 5 (20%) patients required repeat drainage

on day 1. This difference was statistically insignificant (*p*=0.550) (Table-1).

## DISCUSSION

Odynophagia is the most troublesome of the symptom for a patient of peritonsillar abscess. Throat pain after evacuation of pus in peritonsillar abscess settles in about 24 to 36 hours but in cases of incision and drainage the incision site gets inflamed and is a source of pain beyond 36 hours<sup>1,3</sup>.

The soft palate and upper pole of tonsil is rich in sensory supply from IX<sup>th</sup>, IX<sup>th</sup> and XI<sup>th</sup> cranial nerves<sup>8</sup>. The rationale of the study lies in the fact that after evacuation of pus odynophagia settles in about 24 hours but the incision site continues to be source of pain for a further two to three days which is not the case in needle aspiration.

Needle aspiration does not aggravate or increase the duration of throat pain as is the case with incision and drainage and is an effective tool for evacuation of pus from peritonsillar abscess and more so the volume of pus at the initial aspirate is an accurate guide for need of re-aspiration<sup>9</sup>. Needle aspiration is also the best tool to provide a sample for bacteriological studies of the pus as it prevents any contamination from oral commensals which is helpful in deciding the antimicrobial regimen<sup>10</sup>. Needle aspiration is now becoming the method of choice in draining pus from peritonsillar space as stated by Fred et al due to its lower complication rate and ease of use<sup>11</sup>. Needle aspiration has even been stated to be the method of choice in dealing with pediatric peritonsillar abscess<sup>4</sup>.

Repetition of needle aspiration may be necessary in up to 20% of cases which is not statistically significant when compared to incision and drainage, whereas the patient is pain free much earlier in needle aspiration as compared to incision and drainage<sup>12</sup>. Dov et al found needle aspiration to be a reasonable alternative to incision and drainage and hot tonsillectomy in management of adult peritonsillar abscess<sup>13</sup>. The immediate relief of symptoms with needle aspiration outweighs the low failure rate of this method when

**Table: Chi Square Test for Significance of Treatment (n= 50).**

Patients	Treatment Days		
	Day 0 (First Procedure)	Day 1 (Second Procedure)	Day 2 (Third Procedure)
Group A (n=25)	18(72%)	6(24%)	1(4%)
Group B (n=25)	20(80%)	5(20%)	0

compared with incision and drainage<sup>14</sup>. Maharaj et al found needle aspiration to have statistically similar success rates as incision and drainage in management of peritonsillar abscess<sup>15</sup>. A meta analysis conducted at University of Michigan Medical School showed needle aspiration to be as effective as incision and drainage in removal of pus in peritonsillar abscess and more so a much safer procedure as compared to incision and drainage or hot tonsillectomy<sup>16</sup>. The use reciprocating procedure device has now made needle aspiration even more easy and safe<sup>17</sup>.

**CONCLUSION**

Needle aspiration a less invasive and equally effective method as compared to incision and drainage in management of peritonsillar abscess.

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