

# Treatment of Peritonsillar Abscess and Role of Steroids

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## ABSTRACT

**OBJECTIVE:** This study was carried out to see the effect of single high dose treatment of steroid on relieving symptoms of peritonsillar abscess such as throat pain, fever and trismus.

**METHODS:** Fifty patients were divided into two groups. Patients were hospitalized and needle aspiration or incision / drainage of abscess was carried out. One group of the patients received intravenous antibiotic therapy while the other group received antibiotic therapy with single dose of steroid. Comparison was made between the two groups in respect of relief of symptoms.

**RESULTS:** Significant difference between two groups was found, indicating that single dose steroid with antibiotic therapy was more effective than the use of antibiotic alone.

**CONCLUSION:** Single dose of steroid in addition to antibiotic therapy is effective in getting quick relief of symptoms in cases of peritonsillar abscess.

**KEY WORDS:** Tonsils. Abscess. Management. Steroids. Antibiotics.

## INTRODUCTION

Peritonsillar abscess (PTA) is a complication of acute tonsillitis. This infection spreads from tonsil to the mucous gland of weber located in the superior tonsillar pole. PTA is formed in the potential space between tonsillar capsule and superior constrictor muscle. Patients with PTA have odonophagia and trismus preventing oral intake. It is considered potentially life threatening due to air way compromise as a result of caudal spread of abscess.<sup>1</sup> Therefore, it requires quick and effective management for proper relief of symptoms and to avoid serious complications. Treatment of PTA varies at different centres.<sup>2-5</sup> Some advocate incision / drainage others needle aspiration and some recommend abscess tonsillectomy. In this study, efficacy of a single intravenous high dose of steroid prior to antibiotic therapy was compared with antibiotic only regimen. All patients had needle aspiration or incision / drainage prior to medications.

## PATIENTS AND METHODS

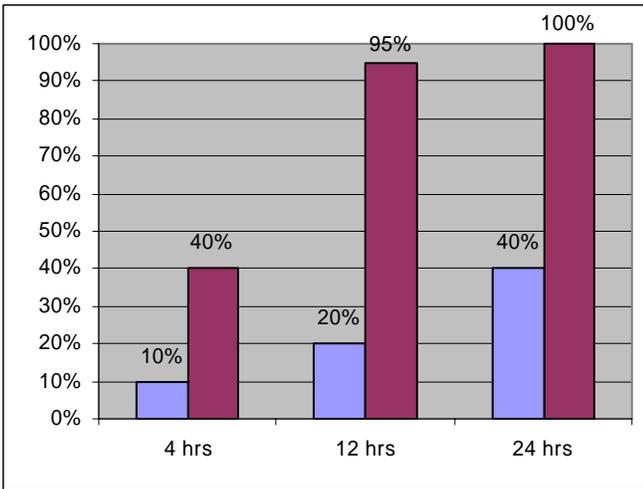
Fifty patients of PTA between 15 and 60 years of age were included in the study. Out of 50 patients, 18 were females and 32 male. These patients had trismus, difficulty in swallowing with high grade fever varying between 101<sup>0</sup>F to 103<sup>0</sup>F. Wide bore needle

aspiration or incision / drainage was done. Patients were assigned into two groups to receive either antibiotic alone or intravenous methyl prednisolone, as a single dose (2-3 mg/kg) prior to antibiotic therapy. Four hourly record of all patient's symptoms i.e. fever, difficulty in swallowing and trismus were kept. In order to have an objective criterion for pain, the distance between upper and lower incisors was recorded with mouth open before treatment and then every four hours after the start of treatment. Medical records were analyzed for the body temperature, throat pain and improvement of upper and lower incisor distance after 4, 12 and 24 hours.

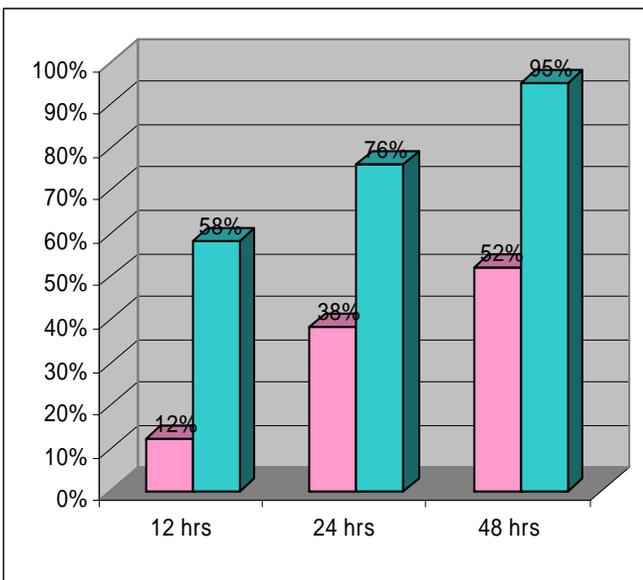
## RESULTS

Fifty patients with PTA were included in the study. There was 95% improvement of mean upper and lower incisor distance in steroid group after 12 hours, where as in antibiotic group the percentage was only 20 (**Figure I**). After 12 hours, 70% patients were able to swallow liquid without pain in steroid group, while in antibiotic group only 18% could do so. The difference was statically significant ( $P < 0.01$ ). The percentage of patients in whom the body temperature returned to normal is given in **Figure II**. There was significant difference at 12, 24 and 48 hours after starting treatment ( $P < 0.01$ ).

**FIGURE I:  
IMPROVEMENT IN UPPER AND LOWER INCISORS  
DISTANCE AFTER 4, 12 AND 24 HOURS**



**FIGURE II:  
FREQUENCY OF PATIENTS AFEBRILE AFTER 12,  
24 AND 48 HOURS**



**DISCUSSION**

PTA is an emergency, where treatment must be started immediately. Pain is very severe and drooling is caused by odonophagia and dysphagia. The trismus is mainly due to inflammation and spasm of medial pterygoid muscle. Due to spasm and pain patient is not able to open the mouth and unable to drink, thus dehydration occurs. Systemic signs such as fever occur and there is growing unilateral swelling and oedema of plate and anterior pillar with displacement of tonsil downwards and medially. Odonophagia is due

to inflammation of superior constrictor muscle of pharynx, which forms the lateral wall of tonsillar fossa. Due to severity of pain patient is unable to swallow even his own saliva. Corticosteroid has been used to overcome the inflammation process, due to its strong anti-inflammatory and anti-oedematous effects. It has also strong antipyretic effect. Three main surgical procedures are used to treat PTA: needle aspiration, incision / drainage and abscess tonsillectomy. In this study, all patients underwent aspiration or incision / drainage with antibiotic therapy. One group of these patients received single dose steroid. All the patients were followed, with respect to temperature, time taken between antibiotic and steroid therapy and start of adequate oral intake. The use of steroid improved the signs and symptoms of patients given adequate time for the start of clinical effect of antibiotics. These results are similar to the study done by Zek CO which suggested that single dose of steroid in PTA following incision and drainage or needle aspiration improves the signs and symptoms dramatically.<sup>3</sup> In another study, Pankar and Tami have indicated that microbial culture play no role in the PTA.<sup>5</sup> Our findings are consistent with earlier study where all the patients responded well to the primary empiric antibiotics. Findings of other studies<sup>6,7</sup> have recommended needle aspiration followed by antibiotic as effective treatment for PTA without the need of incision and drainage. Incision and drainage are also reported superior to aspiration followed by antibiotic in relieving pain, in another study.<sup>8</sup> This study also showed significant improvement in pain which in turn results in quick and effective improvement in mouth opening and swallowing by using single dose of steroids prior to incision drainage / aspiration followed by antibiotic in PTA.

**CONCLUSION**

Intravenous bolus dose of steroid can be given safely in PTA with antibiotic therapy following aspiration or incision / drainage of abscess as it helps in early relief to patient's signs and symptoms.

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