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Is corticosteroid a treatment choice for the management of peritonsillar abscess?

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ABSTRACT

Objective: To investigate the effect of the single systemic use of corticosteroid following drainage procedure in patients with peritonsillar abscess (PTA).
Methods: This retrospective case-control trial included 32 patients with the diagnosis of PTA between December 2013 and January 2016 in our clinic. Patients were divided into two groups based on the approaches of two authors for the treatment after PTA drainage. The study group included the patients treated with single dose systemic corticosteroid after PTA drainage. Other patients who had no corticosteroid treatment were in the control group. Two groups were compared based on time to oral intake, grade of trismus, pain severity and duration of hospitalization.
Results: Statistically significant differences between two groups were observed in terms of time to oral intake, grade of trismus, pain severity and length of hospitalization. The degree of trismus and pain severity significantly decreased in study group comparing to control group at the end of the first day. This difference disappeared at Day 7. Time to oral intake and the duration of hospitalization were shorter in the study group than in control group.
Conclusion: Corticosteroid treatment following drainage procedure in patients with peritonsillar abscess improves pain severity and trismus thus it decreases time to oral intake and duration of hospitalization.

1. Introduction

Peritonsillar abscess (PTA) is a common emergency condition for ear, nose and throat (ENT). Classical symptoms of the patients with PTA include throat pain, fever, dysphagia, odynophagia, weakness, trismus and the hot-potato voice. Oropharynx examination reveals that the uvula which was pushed to the opposite side, a peritonsillar asymmetry between the two regions, redness and swelling [1]. PTA is a suppurative complication of acute tonsillitis. PTA develops by local invasion and proliferation of microbiological factors into the peritonsillar area [2]. PTA is most common deep neck infections in young adults and children [3]. Although PTA occurs in all age groups, it is most common in patients between the ages of 20 and 40 [3,4]. PTA usually is diagnosed by the first family physician and the most of the patients had been treated with systemic antibiotics prior to admission. The annual incidence of PTA was estimated as 3/10,000 [5]. However, PTA incidence in our country is still unknown. Drainage and antibiotic treatment are usually sufficient for PTA. However, oral intake difficulties due to the secondary symptoms such as trismus and odynophagia caused by local edema and inflammation may require hospitalization for feeding. It has

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been proved that corticosteroids in the treatment of infectious, inflammatory disease improve symptoms of the patients [6]. There are few studies investigating the efficacy of systemic corticosteroid usage in the treartment of PTA and further trials are needed in this outcome [7]. The purpose of our study is to investigate the effect of the single systemic use of corticosteroid following drainage procedure in patients with peritonsillar abscess (PTA) in our clinical practice.

2. Materials and methods

2.1. Participants

In our study, electronic file records of 50 patients who were diagnosed by two authors Hasan Emre Koçak and Mustafa Suphi Elbistanlı as PTA in our clinic between December 2013 and January 2016 were examined. Age, sex, symptoms, examination findings, prior use of antibiotics and PTA history of the patients were recorded. Patients who were treated by local or systemic corticosteroid and antibiotic treatment in last seven days, patients who have not signed the informed consent form and the patients without purulent discharge following the incision were not included in the study. Patients without sufficient information in their medical file were excluded from the study. Totally 18 patients were excluded.

2.2. Ethics committee

Our study was performed as a retrospective, case-control study after approval of the local ethical committee.

2.3. Study design

Firstly, incision (with a guarded scalpel make a small incision above the tonsil, in the soft palate) and drainage procedures under local anesthesia with lidocaine (10% Vemcaine® Pump spray and Vem Pharmaceuticals, Istanbul, Turkey) were performed in all patients with PTA. All drainage procedures were performed by same resident surgeon Harun Acıpayam under the supervision of a senior surgeon. We did not performed any radiological imaging before or after the drainage procedure. Hemogram and C-reaktif protein (CRP) blood tests were obtained. Author H.E. Koçak routinely administered single intravenous methylprednisolone at the dose of 1 mg/kg (Prednol-L40 mg amp®, MN, Istanbul, Turkey) following the procedure depending on personal experience and preference while the author M.S. Elbistanlı did not use steroid treatment. Patients treated with corticosteroid were included in the study group, and the others were assumed as the control group. After the procedure, all patients received 7-day systemic clindamycin intravenously or intramuscularly (IV/IM) (during hospitalization, three times daily IV/IM Klindan® 600 mg vials, after discharge three times daily Klindan® 300 mg tablets, Bilim Pharmaceuticals, Istanbul, Turkey), 7-day systemic paracetamol (during hospitalization, three times daily IV/IM Parol® 10 mg/ml, 100 ml vials, after discharge three times daily Parol® 500 mg tablets, Atabay Pharmaceuticals, Istanbul, Turkey) and 1000 cc isotonic Na/Cl solution (during hospitalization, two times daily). All patients were hospitalized after the drainage procedure and released after symptom improvements such as fever control and well-being following oral intake. Oral systemic clindamycin treatment was completed within seven days after discharge. Totally, 18 patients were treated with IV methylprednisolone (1 mg/kg). Pain and trismus severity at Days 1 and 7 were evaluated in patient medical records. Also, time to oral intake, duration of hospitalization and side effect profile of single dose of the steroid were reviewed. Patients had been followed-up at Month 1 for recurrence or complications. Visual pain scale (VPS) was used for pain assessment (Fig. 1). Time to oral intake (h) was estimated as the time until the patient could swallow easily. The degree of trismus was rated by measuring the distance between the upper and lower incisors during difficult mouth opening. Trismus degree at Days 1 and 7 was compared between two groups. Trismus was rated as follows: No trismus: mouth can be opened more than 40 mm with effort; mild trismus: mouth can be opened between 35 and 40 mm with effort; moderate trismus: mouth can be opened between 25 and 35 mm; severe trismus: mouth can be opened between 15 and 25 mm; very severe trismus: mouth can be opened less than 15 mm with effort [8]. In statistical rating mild, moderate, severe and very severe trismus were assessed as grade 1–4 respectively.

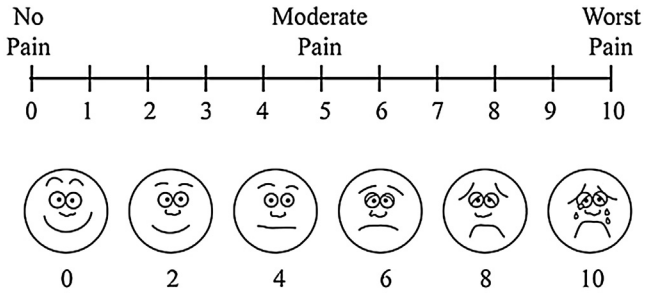

Fig. 1. Visual pain scale (VPS). Images in the figure were used for the illiterate patients.

2.4. Statistical analysis

Mean, standard deviation, median minimum, maximum, frequency and ratio values were used in descriptive statistics. Kolmogorov–Smirnov test assessed the distribution of variables. Mann–Whitney U test and independent samples t-test were used for quantitative data analysis. Wilcoxon test was used to analyze the repeated measures. Qualitative data were analyzed by chi-square test. SPSS 22.0 software was used for the data analysis.

3. Results

A total of 32 patients were included in the study. In addition to the standard treatment protocol, 18 patients were administered IV methylprednisolone. The mean age of the patients was 26.8 ± 6.9 (range 11–41). 19 patients were male. 18 patients had left side PTA, and PTA was located on the right side in the rest of the patients. Although the symptoms were variable

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