

Management of Dry Socket: Hydrogen Peroxide as an irrigant

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ABSTRACT

Dry socket is one of the common post tooth extraction complication. The object of the study was to obtain maximum optimum results in the treatment of dry socket. A prospective study was carried out to see the effects of pure hydrogen peroxide on a total number of 43 patients diagnosed with dry socket. Patients were irrigated with 15 cc of pure hydrogen peroxide instead of commonly used sterile solution of sodium chloride known as normal saline. Dressing of 'Alvogyl' was placed at the site of dry socket and patients were followed for next 5 days. Findings were recorded which were based on pain, sensitivity on gentle probing at the dry socket site. There was a good relief in pain and sensitivity. Hydrogen peroxide had very good curing results on pain and sensitivity relief of dry socket.

Keywords: Hydrogen peroxide, dry socket, normal saline

INTRODUCTION

Dry socket or alveolar osteitis is post tooth extraction complication. This usually occurs where the blood clot fails to form or is lost from the socket. This leaves an empty socket where bone is exposed to the oral cavity¹.

Signs: Socket- devoid of blood clot, pain and sensitivity, surrounding inflamed soft tissues may overlie the socket and denuded bone walls.

Symptoms: Pain, halitosis and bad taste in the mouth².

Prevention: Antibacterial mouthwashes, antiseptic solutions, oral antibiotics, medicated dressings, stop smoking, females if taking oral contraceptives, schedule your extraction, if possible, during days 23 to 28 of your menstrual cycle, when estrogen levels are lower.

The best treatment is the one which is convenient for patient and convenience is elaborated as the treatment which is affordable and has most favorable results. Our aim for this study was to find the best treatment option.

METHODOLOGY

This study was conducted in Oral & Maxillofacial Surgery Department of Sharif Medical and Dental College Lahore; from 1/1/2013 to 27/6/2013, on a total of 43 patients. The diagnostic criteria was history of extraction (of 2 or more days), pain, clinical examination of sensitivity on gentle probing on the site of extraction, halitosis and limited mouth opening. Patients with systemic diseases like hypertension, diabetes, bleeding disorders, blood dyscrasias, hepatic dysfunctions and with prolong history of smoking were excluded from the study. Informed

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consent was taken from the patients after telling them about the merits and demerits of treatment. Patients were thoroughly irrigated with 15 cc of pure hydrogen peroxide at the dry socket site. Dressing of alvogel was placed. Patients were followed for five consecutive days to see effects and results. The difference in pain was recorded. Difference in pain was also explained by the patients themselves and sensitivity on gentle probing was based on all or none.

RESULTS

Out of 43 patients 18 were males; 25 were females. There was no notable effect of gender on treatment. Mean age at the time at the time of presentation was 32.9. Most of patients were in their third decade. There was also not any notable effect of age on treatment. All patients measured their pain as severe on the 1st day. Out of 43 patients, 30 had cured results with only one dressing that they had no need for another dressing. There was significant difference in pain and in sensitivity. Rests of the patients were relieved from pain of 3rd day of treatment. Almost all patients were cured and relieved from pain before 5th day of treatment³.

Distribution according to gender

Gender	n	%age
Male	18	41.8
Female	25	58.1

Distribution according to age

Age in years	n	%age
15-20	1	2.32
21-30	17	39.5
31-40	19	44.1
41-50	5	11.6
51-65	1	2.3

DISCUSSION

Dry socket is the most common postoperative complication after tooth extraction, with an onset at 2 to 4 days after surgery. It was first described by Crawford in 1876. Camila Lopes Cardoso, Moacyr Tadeu Vicente Rodrigues, Osny Ferreira Júnior, Gustavo Pompermaier Garlet, and Paulo Sérgio Perri de Carvalho in their work 'Clinical Concepts of Dry Socket' in 2010, explained that the combination of iodine-based substances with hydrogen peroxide might be advantageous. The combination of PVP-I and hydrogen peroxide exerted synergistic bactericidal effects against periodontal pathogens, allowing Maruniak et al in 1992, to conclude that a significant reduction effect occurs against dental plaque and gingivitis using the combination of iodine and hydrogen peroxide³. The effective and good role of hydrogen peroxide in the treatment of dry socket was also explained by Charles Ezechukwu Anyanechi in 2013 in his work 'Management of alveolar osteitis: a comparative study of two treatment techniques' as 'there is reduction in the duration of treatment in the radical group of patients when compared with those treated traditionally. This alternative treatment is safe and reliable and can be utilized by the practitioner who runs a busy clinic to save time'⁴.

According to studies and research, there are 3 types of anaerobic bacteria's which are the main sole reason of dry socket⁵ i) actinomyces viscosus, ii) streptococcus mutans and iii) treponema denticola

Hydrogen peroxide being a strong oxidizing agent releases oxygen and removes/kills these trouble causing anaerobic bacteria's. It (H₂O₂) produces a 'foaming action' causing oozing and bubbling out of food debris along with anaerobic

bacteria's from extraction site; resulting in better cleansing in short span of time. Patients are instructed to spit out foam which is formed during irrigation. It is normally said that pure hydrogen peroxide is an irritant and may cause sloughing and necrosis of oral mucosa. None of our treated patients was observed with this complication. 30 patients were cured and relieved from pain and sensitivity with only one dressing. The only abnormal thing noted was slight blanching of tissue on the extraction site in '5' patients, which also disappeared on 3rd and 4th day of follow-up. It was seen that patients treated with 15 cc of pure hydrogen peroxide had better effects with only one dressing than the patients who are normally treated with conventional treatment.

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