

https://dspace.org/

A protocol for prophylactic antibiotic use in managing mandibular fractures requiring open reduction and internal fixation: a prospective clinical trial

Mohotlhoane, Gontse P.

2021

https://hdl.handle.net/10539/32021

Downloaded from a DSpace repository. https://dspace.org/

ABSTRACT

Introduction: The use of antibiotic prophylaxis in managing mandibular fractures is a common practice amongst maxillofacial and oral surgeons. The practices are however varied and unclear.

Purpose: The purpose of this study was to analyze the need for long term prophylactic antibiotic regimen following treatment of fractured mandibles with open reduction and internal fixation.

Material and methods: A prospective, randomized controlled trial was undertaken at Wits Oral Health Centre. Patients with mandibular fractures who were managed with open reduction and internal fixation using mini plates via intra-oral approach were randomized into two groups. Group 1, the control group, was composed of patients who received a 1-day IV antibiotic cover intra-operatively and further 24 hour doses post-operatively (3 doses), before being discharged. Group 2, the study group, was composed of patients who received similar doses as the control group but with an additional 5 days of oral antibiotics upon discharge. The patients were reviewed over a period of 1, 4 and 6 weeks and the presence or absence of infection was recorded each week and analyzed.

Results: A total of 77 patients were analyzed, with 41(53.2%) in the non-antibiotic group and 36 (46.8%) in the antibiotic group. Overall infection rate at 6 weeks was 6.5% with a total of 18 patients in the non-antibiotic group and 9 patients in the antibiotic group who presented with infections over the 6-week review period. There was no significant difference ($p=0.34$) in the presence of infection between the antibiotic and the non-antibiotic groups but there was a notable increase in post-operative infection in patients with comorbidities in the non-antibiotic group.

Conclusions: The extended use of antibiotic prophylaxis when managing mandibular fractures with open reduction and internal fixation offers no additional benefit in reducing post-operative infection. However, patients with comorbidities might be at an increased risk of post-operative infection and might benefit from an extended course of oral antibiotics.