

The role of metronidazole in prevention of dry socket formation

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Abstract:

A study was done on (150) patients attending oral surgery clinics at college of dentistry of Babylon university, the aim of this study is to evaluate the significance of using metronidazole as prophylactic measures in prevention of dry socket formation. We found that there was a little role of this drug when it is used before dental extraction.

Introduction:

Metronidazole is widely used in treatment of several inflammatory conditions due to infection (1) with anaerobe. It is used as prophylactic measures (2) in local osteitis (dry socket) which is frequently occur after dental extraction which is in turn occur as a result of many causes such as contamination with saliva, forcible extraction, smoking, local sepsis, contraceptive pills ingestion, radiation (radio therapy) and so on. (3)(6)

Materials and Methods:

(150) patients attending oral and maxillofacial surgery department at college of dentistry/Babylon university complaining of dental pain and they seek advice for eradication of this pain. They have been examined at oral diagnosis section and treated accordingly through indicated dental extraction. We decide to give them prophylactic measures in order to control the occurrence of local osteitis in the post operative period. We divide these patients in to three equal groups, one group were given (Amoxicillin) as antibiotic (1-2) hours before the dental extraction (Allergic were given erythromycin as alternative), second group were given metronidazole one hour before the procedure, while the remaining (50) patients were considered to be as a control group.

All the drugs were given with sips of water before administration of local anesthetic. We let the patients to stay in the waiting room for (1-2) hours, meanwhile verbal consents were taken from them. We advice the patients to follow the customary instructions which are given for any patient undergoes dental extraction. The patients range between (20-50) years, with exception of few cases range between (55-60) years taking in consideration that all of the patients had no history of systemic diseases or under went tumor therapy (chemo or radiotherapy). Painful post operative complication was recorded if either a dry socket was present or the patient returned with pain. In addition to pre operative administration the drugs were prescribed post operatively for three days. Smokers were excluded from the study.

Results:

Of (50) patients taking no drugs only (8) cases were coming with dry socket, while patients on antibiotic Therapy (amoxicillin and erythromycin) seven patients were

coming after 48 hours with dry socket formation (tab 1): male to female ratio is shown in (tab 2).

Discussion:

Local osteitis(dry socket) is frequently seen in oral surgical procedures following dental extraction (8),in this study our results show that patients took metronidazole as a prophylactic measures decrease dry socket formation to a considerable limits (4), (5).Only (5) patients out of (50) who were took the drug got dry socket after extraction (10%), this is going with the result obtained by Tanga, MR (3). The mandible was exclusively affected with dry socket and third molar tooth was the most one (7) and female more than male (4)

This drug (metronidazole) act on anaerobic micro organisms which are thought to be the main causative agent in dry socket formation and which may be hidden in periodontal pockets or inflamed gingival.(9)

The condition as observed in our study likely to occur in younger age group and it is reduced with increasing age: also it is more likely to occur in patients with previous history of the condition. (10)

Conclusion:

The preoperative administration of antibiotics had no clinical significance in prevention of dry socket formation. Metronidazole therapy had a considerable limited effect and accordingly metronidazole can be used as a prophylactic measures. We suggest using the drug as a gel around the socket of the tooth which is going to be extracted although it is not effective as in systemic administration. We suggest the use of chlorohexidine in the same manner as in the metronidazole gel application. (11)

Table 1: Distribution of patients according to prophylactic and non prophylactic measures

Age groups		No prophylactic measures patients	Antibiotic patients	Metronidazole Patients
No.	years			
3	20-30			
3	30-40	8		
2	40-50			
3	20-30			
2	30-50			5
3	20-30		7	

2	30-40			
2	40-50			

Table 2: Male to female metronidazole therapy distribution

Percentage	Female	Male
4%		2
6%	3	
10%		

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الخلاصة:

أجريت هذه الدراسة على عينات مكونه من (150) مريض كلهم من مراجعي العيادات التعليمية لقسم جراحة الوجه و الفكين في كلية طب الأسنان وتهدف الدراسة إلى معرفة أهمية استعمال عقار الفلاجيل أو المترونيدازول للمرضى الذين يشكون من أعراض التهاب العظم الفكى الموضعي بعد عمليات قلع الأسنان. وقد وجد أثناء البحث بان تأثير استعمال العقار مفيد إلى حد ما (10%) بعد مقارنته بالمضادات الحياتية الاعتيادية أو بدون اخذ أي عقار يذكر.