

Dental Management of Medically Compromised Patients- A Questionnaire among Dental Practitioner

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Abstract

Introduction : An increase in the number of medically compromised patients in dental clinics may cause serious problems for practicing dentists all over the world. When a dentist does not understand well the relationship between oral and systemic diseases, dental care may become a quite complicated issue. Management of the medically compromised patients require acquisition of complete health history as well as dental history of the patient. This should include documentation via questionnaire as well as a verbal history. Preferably an oral history should also be obtained as a review of systems. The dental history should also include questions related to current oral conditions such as periodontal disease or oral ulceration and past dental treatment and potential complications from prior intervention including treatment failure and the delivery of anesthesia or post-treatment medication. The first step in managing the patients with medical problems is acquiring thorough health history of the patients.

Aim: The aim of this study is to analyse the knowledge about dental management of medically compromised patients among dental practitioners.

Materials and Method: A cross sectional survey was initiated from a randomly chosen population of 100 dental practitioners. Informed consent was obtained from the participants. the survey was conducted online using online survey planet online survey tool. the survey instrument used was a pretested questionnaire comprising of 10 questions eliciting responses pertaining to the dental management of medically compromised patients among dental practitioners.

Results: Among 100 dental practitioners 100% of them enquire medical history including medication and allergy, 68% of them obtain vital signs of the patient commencing dental treatment, 50% of them are confident in handling emergency conditions. 82% of them have emergency kit in dental office, 98% of them get consent from the physician before treating medically compromised patients, 62% of them have knowledge about prescribing AHA guidelines of antibiotics for cardiovascular patients, 42% of them said they can efficiently manage patients on 1st, 2nd and 3rd trimester and 88% of them are aware of diagnosing oral signs of anemia and management.

Conclusion: Dental practitioners have adequate knowledge about managing medically compromised patients in a dental unit. The handling of a medical emergency in a dental office is a skill. One must have hands

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on experience to gain the level of confidence necessary to manage life threatening situations. This can be done by regularly attending hands-on workshop which will subsequently assess the skills acquired.

Keywords: medically compromised patients, epilepsy, anemia, vital signs

Introduction

An increase in the number of medically compromised patients in dental clinics may cause serious problems for practicing dentists all over the world. When a dentist does not understand well the relationship between oral and systemic diseases, dental care may become a quite complicated issue. Management of the medically compromised patients require acquisition of complete health history as well as dental history of the patient. This should include documentation via questionnaire as well as a verbal history. Preferably an oral history should also be obtained as a review of systems. The dental history should also include questions related to current oral conditions such as periodontal disease or oral ulceration and past dental treatment and potential complications from prior intervention including treatment failure and the delivery of anesthesia or post-treatment medication. The first step in managing the patients with medical problems is acquiring thorough health history of the patients.

Effective management of medical emergencies in the dental office is ultimately the dentist's responsibility. Lack of training and inability to cope with medical emergencies can lead to tragic consequences and sometimes legal action. Therefore, dental practitioners must be able to recognize and communicate adequately about relevant medical problems as well as have appropriate knowledge of oral health care and potential interactions with medical conditions. The purpose of this study was to assess the dental management of medically compromised patients among dental practitioners^[1].

Materials and Method

A cross sectional survey was initiated from a randomly chosen population of 100 dental practitioners. informed consent was obtained from the participants. the survey was conducted online using online survey planet online survey tool. the survey instrument used was a pretested questionnaire comprising of 10 questions eliciting responses pertaining to the dental management of medically compromised patients among dental practitioners.

The questions include:

1. Do you enquire about medical history including medication and allergy?
2. Do you obtain vital signs of the patients before commencing any treatment?

3. Do you think you can handle emergency condition on your dental office very confidently?
4. Availability of emergency kits in your dental office?
5. Do you get consult from the physician before treating medically compromised patients?
6. Are you aware of prescribing AHA guidelines (2007) of prescribing antibiotic prophylaxis for cardiovascular disease?
7. Are you aware of managing patients experiencing epilepsy attack on dental chair?
8. Do you monitor INR for the patients on combination of blood thinners?
9. Are you aware of managing patients during 1st, 2nd, 3rd trimester?
10. Are you aware of diagnosing oral signs of anemia and dental management of same patients?

Results

1. Do you enquire medical history including medication and allergy?

Responses To Question Number 1

Among the 100 dental practitioners 22 were male participants and 78 were female participants. 100%of the participants said that they will enquire medical history including medications and allergies.(Fig 1

2. Do you obtain vital signs of the patient before commencing dental treatment?

Responses To Question Number 2

Among the 100 dental practitioners 22 were male and 78 were female participants. Overall awareness about obtaining vital signs of the patients before commencing dental treatment is 68%. Among them 52 were females and 16 were males. In this survey 32% of the participants are not aware.(Fig 2)

3. Do you think you can handle any emergency in your dental office confidently?

Responses To Question Number 3

When we ask 'Do you think you can handle any emergency conditions in your dental office very

confidently', only 50% of the participants said yes. Among them 28 were female and 22 were male participants. In this survey 50% of the participants said No to this question.(Fig 3)

4. Availability of emergency kit in your dental office?

Responses To Question Number 4

When we ask about availability of emergency kit in dental office, 82% of them said yes. Among them 60 were female and 22 were male participants. In this survey 18% of the participants said no for this question. (Fig 4)

5. Do you get consent from the physician before dental treatment?

Responses To Question Number 5

When we ask 'Do you get consent from the physician before treating medically compromised Patients' 98% of them said yes. Among them 77 were female and 21 were male participants. In this survey 2% of the participants said no for this question.(Fig 5)

6. Are you aware of prescribing AHA guidelines of antibiotics for cardiovascular patients?

Responses To Question Number 6

Among 100 dental practitioners 22 were male and 78 were female participants. Overall awareness about prescribing AHA guidelines (2007) of prescribing antibiotic prophylaxis for cardiovascular patients is 62%. Among them 44 were female and 11 were male participants. In this survey 38% of the participants said no for this question.(Fig 6)

7. Are you aware of managing epileptic patient in dental chair?

Responses To Question Number 7

When we ask 'Will you able to manage patients experiencing epileptic attack on dental chair?', 72% of them said yes. Among them 52 were female and 20 were male participants. In this survey 28% of the participants said no for this question.(Fig 7)

8. Do you monitor INR for patients on anticoagulants?

Responses To Question Number 8

When we ask 'Do you monitor INR for patients on anticoagulants?' 72% of them said yes. Among them 27% were male and 50% were female. In this survey 28% of the participants said that they are not aware about monitoring INR.(Fig 8)

9. Are you aware of managing patients under 1st, 2nd, 3rd trimester?

Responses To Question Number 9

When we ask 'Can you efficiently manage patients on 1st, 2nd, 3rd trimester of pregnancy?' only 42% said yes. Among them 13% were male and 29% were female. In this survey 58% of the participants said they can't manage pregnant patients efficiently.

10. Are you aware of diagnosing and management of anemia?

Responses To Question Number 10

When we ask about 'overall awareness about diagnosing oral signs of anemia and management of same patients', Majority of 88% of them are aware. Among them 11% were male and 77% were female. In this survey 12% of the participants are not aware of diagnosing and managing anemia.(Fig 10)

Discussion

Life-threatening emergencies are common in dental practice. Invasive procedures in the dental Office might result in medical emergencies. Dental surgeons must have good knowledge and awareness of medical emergencies, and they should be prepared to manage such situations. The extent of treatment by dentists requires preparation for and prevention and management of medical emergencies. To alter the treatment plan, a complete medical history is required^[2].

Vital signs traditionally consist of blood pressure, temperature, pulse rate and respiratory rate^[3]. Vital signs are an important component of monitoring the patient's progress during hospitalisation as they allow for the prompt detection of delayed recovery or adverse events^[4]. Dysregulated organ system function as a result of age or age-associated pathophysiology, coupled with age-related loss of protective homeostatic mechanisms, suggests that among older patients vital sign response may not only deviate from normal ranges, but also

remain confined to a range of values, unable to respond appropriately to stressors. Thus, healthcare professionals should pay special attention to vital signs in the elderly^[5].

Dentists must be prepared to manage medical emergencies that may arise in practice. Therefore, dentists should be ready to manage these events. Preparation focuses primarily on prevention but should also include the presence of specific equipment and emergency drugs^[6]. Some of the emergency drugs that has to be mandatorily present are oxygen for almost any medical emergency. Epinephrine for anaphylaxis, asthma, cardiac arrest. Nitroglycerin for pain of angina. Antihistamine got allergic reactions. Salbutamol for asthmatic bronchospasm. Aspirin for myocardial infarction. Some of the other emergency drugs are glucagon for hypoglycaemia, atropine for bradycardia, ephedrine for hypotension. Hydrocortisone for adrenal insufficiency. Morphine for angina like pain. Naloxone for reversal of opioid overdose. Midazolam for status epilepticus. Flumazenil for benzodiazepine overdose^[7].

Informed consent is a widely accepted part of medical practice. All clinicians recognise a duty to obtain the informed consent of patients before surgery, invasive procedures, and participation in biomedical research. Hospital accreditation standards require documentation of informed consent prior to designated procedure and treatments. Despite the wide acceptance of the general need for informed consent, clinicians have little guidance as to which clinical decisions need informed consent^[8].

Following publication of the 2007 AHA recommendations, there was a significant reduction in AP prescribing. Consistent with the new recommendations, the greatest reduction was among those at moderate risk of IE^[9]. Highest risk of adverse outcomes of AHA 2007 guidelines of endocarditis are previous infective endocarditis, prosthetic valve, unrepaired cyanotic congenital heart disease, 6 month period post prosthetic repair of chronic heart disease, repaired chronic heart disease with residual defects, cardiac transplant with valvulopathy. Antibiotic prophylaxis of AHA 2007 guidelines of endocarditis- All dental procedures involving gingival tissue manipulation or periapical region of teeth or oral mucosa perforation, procedures on respiratory tract or infected skin/musculoskeletal tissue.

Epilepsy is a disease that involves seizures, which are characterized by an alteration of perception, behavior, and mental activities, as well as by involuntary

muscle contractions, temporary loss of consciousness, and chronic changes in neurological functions that result from abnormal electrical activity in the brain. Dental treatment of patients with epilepsy and seizures should be carried out by dentists who are knowledgeable about these disorders. patients who have poorly controlled epilepsy and experience frequent generalized tonic-clonic seizures exhibit worse oral health in comparison with patients who are better controlled or only have seizures that do not involve the masticatory apparatus^[10]. If a seizure occurs while a patient is in the dental chair, a dentist should be able to manage the situation by knowing the primary steps including discontinuing the procedure immediately and placing the patient on his/her side to decrease the chance of aspiration of secretions or dental materials in the patient's mouth^[11].

Efficacy of Oral anticoagulant depends on maintenance of the international normalized ratio within the designated therapeutic range. control of INR is beset by a large number of problems inherent to vitamin K antagonists that are heavily influenced by drug-drug and food-drug interactions, alcohol consumption, hepatic dysfunction, genetic variation in enzyme activity, and dietary intake of vitamin K. Maintenance of this narrow therapeutic INR range is important because there is an increased risk of hemorrhagic stroke with INR > 3.0 and thromboembolic complications at INRs < 2.0^[12].

In general, pregnant females tend to over estimate the risk of teratogenicity in the foetus resulting from medical and dental procedures and/or drugs. This may cause them to avoid necessary treatment, leading to detrimental health effects for both the foetus and themselves^[13]. Coronal scaling, polishing and root planing may be performed at any time as required to maintain oral health. However, routine general dentistry should usually only be done in the second and third trimester of pregnancy. Organogenesis is completed by the end of the first trimester, and uterine size has not increased to the extent that sitting in the dental chair is uncomfortable. Moreover, nausea has generally ceased by the end of the first trimester. Extensive elective procedures should be postponed until after delivery^[14].

The diagnostic criteria for anaemia in IDA vary Hb <10–11.5 g/dl for women and <12.5–13.8 g/dl for men^[15]. Pallor of the conjunctiva, tongue, palm or nail beds was 66% sensitive and 68% specific in distinguishing children with moderate a anaemia (haemoglobin concentration 5-8 g/dl) and 93% sensitive

and 57% specific in distinguishing those with severe anaemia (haemoglobin concentration < 5 g/dl)^[16]. There are several ways to manage anemia including, following a healthy diet, exercising regularly, avoiding exposure to chemicals that set off anemia, washing your hands often to avoid infection, talking to your doctor about any changing symptoms. Patients with moderate to severe can improved by hospitalization and blood transfusion ^[17].

Conclusion

Dental practitioners have adequate knowledge about managing medically compromised patients in a dental unit. The handling of a medical emergency in a dental office is a skill. One must have hands on experience to gain the level of confidence necessary to manage life threatening situations. This can be done by regularly attending hands-on workshop which will subsequently assess the skills acquired.

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