

DISPOSAL OF BLOOD CONTAMINATED GAUZE PACKS BY ORAL AND MAXILLOFACIAL SURGERY PATIENTS IN SOUTH INDIA: A SURVEY

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Received on: 26/04/2021

Revised on: 16/05/2021

Accepted on: 06/06/2021

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ABSTRACT

Objectives: The purpose of this study was to determine if adequate instructions were given to patients after oral surgical procedures and to assess the possible risk of cross contamination due to incorrect disposal of blood contaminated gauze packs by patients.

Materials and methods: A survey was conducted amongst 95 oral and maxillofacial surgeons and 210 patients between January 2019 and March 2019. Separate questionnaires were sent electronically consisting of six questions for both, the oral and maxillofacial surgeons as well as the patients. **Results:** The results of the survey showed that none of the oral and maxillofacial surgeons provided instructions on how to dispose the blood contaminated gauze packs or provide a self-sealing bag for disposal of the same. Most patients did not follow a proper method for disposal of gauze packs and more than half of them readjusted the gauze pack with bare hands. None of the patients were aware of the correct method of disposal of the gauze pack if they had blood transmittable diseases. **Conclusion:** There is a need to enhance the education of oral and maxillofacial surgeons and increase patient awareness so as to minimize the risk of cross infections and to create specific policies and guidelines regarding disposal of gauze packs.

KEYWORDS: Blood-contaminated gauze packs; Cross infection.

INTRODUCTION

Infection control practices are important for maintaining a safe environment and reducing the risk of potential spread of a disease in dental practices. Strict infection control policies and guidelines for proper waste disposal have been established by various organizations. However, most organizations focus on education of the oral and maxillofacial surgeons and assistants, not the patients.^[1,2]

After dental extractions, a gauze pack is usually placed in the patient's mouth. The patient is advised to firmly bite on it for 20 to 30 minutes to control bleeding and dispose it once the bleeding stops. However, there are no consistent guidelines given to the patients regarding disposal of these blood contaminated gauze packs.^[1,3] Improper disposal of these can increase the risk of cross infection.

Most of the patients do not regard their own blood as a possible source of infection and it is very natural for them to touch the gauze pack inside their mouth with their bare hands or to adjust its position between their teeth.^[3] This action by the patient is quite unpredictable and can be done anywhere in the hospital environment or outside it, where there is no monitoring of the patient.^[3] Another problem with this situation is that among these,

there may be patients with undiagnosed blood transmissible diseases and there may be some who may be reluctant to share their health status.^[1,2] Therefore, there are multiple chances for the potential spread of disease-causing organisms in the dental office and beyond.^[1]

A study by Franklin and Laskin in 2014 indicated that even though patients were provided with both verbal and written postoperative instructions, adequate instructions regarding the management and disposal of gauze packs were not given.^[1] A study by Chatzoudi in 2009 found that a majority of patients disposed the gauze in an improper way and at least half of them used their bare hands to touch it prior to its final removal.^[3]

In a developing country like India, not much care is taken by individuals regarding waste disposal and infection control. This study aims to determine if adequate instructions were given to patients after oral surgical procedures and to assess the possible risk of cross contamination due to incorrect disposal of blood contaminated gauze packs by patients.

MATERIALS AND METHODS

Survey design: The survey was conducted in dentists as well as patients. A questionnaire was sent electronically

to 300 randomly selected oral and maxillofacial surgeons practicing in South India between January 2019 and March 2019. Out of these 95 surgeons participated in the survey. In addition, 500 adult patients whose oral surgeons responded to the above survey were approached similarly of which 210 patients responded to the survey questionnaire. Patients with mental disabilities were excluded. All participants in the survey were voluntary and their responses were anonymous.

Questionnaire design: The questionnaire being used was based on surveys by Chatzoudi (2009), Franklin and Laskin (2014) and Dai et al. (2016). The questionnaire for the oral surgeons included six questions:

1. Are verbal postoperative instructions provided to a patient after dental extraction or other oral surgical procedures?
2. Is a post-operative instruction sheet handed to the patient after the dental extraction or other oral surgery after they have been verbally explained the same?
3. Are any extra gauze packs provided to the patients to control any bleeding after they have left the office?
4. Do the postoperative instructions provide information on how to dispose of blood- contaminated gauze pack?
5. Are any special postoperative instructions given regarding the disposal of the gauze pack to patients with blood transmitted diseases, such as hepatitis, AIDS etc?
6. Are any patients provided with self-sealing plastic bag for disposal of the gauze pack?^{1,2}
7. The questionnaire for the patients also included six questions:
8. Where did the patient dispose the gauze pack?
9. Did the patient readjust the blood-soaked gauze pack with bare hands?
10. Did the patient wash their hands before or after touching the gauze pack?

11. Is the patient aware that the cross contamination that may be caused by the blood-soaked gauze?
12. Is the patient aware of the correct disposal of the gauze pack?
13. If the patient carries a blood-transmittable disease, is he aware of the correct disposal of the gauze pack?^{1,3}

RESULTS

A total of 95 oral and maxillofacial surgeons and 210 adult patients participated in the survey. The results of the survey showed that all the surgeons gave verbal post operative instruction, however only 22 surgeons handed a written instruction sheet to the patient after they were verbally explained the same. 51 of 95 oral and maxillofacial surgeons provided extra gauze packs to the patient to control any bleeding once they left the dental clinic. None of the oral and maxillofacial surgeons provided instructions on how to dispose the blood contaminated gauze packs or provide the patients with a self-sealing bag for disposal of the same. Only one surgeon provided special instructions to patients with blood transmitted diseases. (Table 1)

Our results indicated that most patients did not follow a proper method for disposal of blood contaminated gauze packs with disposal of the same in clinic washroom (24.28%), home washroom (29.52%), clinic waste bin (16.66%), home waste bin (13.80%), roadside (10%) and roadside bin (3.33%). More than half the patients, 131 out of 210 (62.38%), readjusted the gauze pack with bare hands and 178 patients (84.76%) did not wash their hands before or after touching the gauze pack. It was seen that 148 patients (70.47%) were aware that cross contamination could be caused by blood soaked gauze but none of them were aware of the correct method of disposal of the same. All patients lacked awareness of the correct method of disposal of the gauze pack if they had a blood transmittable disease. (Table 2).

Table 1: Survey in Oral and Maxillofacial Surgeons.

S. No	Question	N=95	Percentage
1	Are verbal postoperative instructions provided to a patient after dental extraction or other oral surgical procedures?	Yes=95	100.00%
		No=0	0.00%
2	Is a post-operative instruction sheet handed to the patient after the dental extraction or other oral surgery after they have been verbally explained the same?	Yes=22	23.15%
		No=73	76.8%
3	Are any extra gauze packs provided to the patients to control any bleeding after they have left the office?	Yes=51	53.68%
		No=44	46.31%
4	Do the postoperative instructions provide information on how to dispose of blood- contaminated gauze pack?	Yes=0	0.00%
		No=95	100.00%
5	Are any special postoperative instructions given regarding the disposal of the gauze pack to patients with blood- transmitted diseases, such as hepatitis, AIDS etc?	Yes=1	1.05%
		No=94	98.94%
6	Are any patients provided with self- sealing plastic bag for disposal of the gauze pack?	Yes=0	0.00%

	No=95	100.00%
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Table 2: Survey in patients.

S. No	Questions	N=210	Percentage
1	Where did the patient dispose the gauze pack?		
	Clinic washroom	51	24.28%
	Home washroom	62	29.52%
	Clinic waste-bin	35	16.66%
	Home waste-bin	29	13.80%
	Roadside	21	10.00%
	Roadside bin	7	3.33%
	Self-sealing plastic bag	0	0.00%
	Other	3	1.42%
Cannot recall	2	0.95%	
2	Did the patient readjust the blood-soaked gauze pack with bare hands?		
	Yes	131	62.38%
	No	72	34.28%
	Cannot recall	7	3.33%
3	Did the patient wash their hands before or after touching the gauze pack?		
	Yes	23	10.95%
	No	178	84.76%
	Cannot recall	9	4.28%
4	Is the patient aware that the cross contamination that may be caused by the blood-soaked gauze?		
	Yes	62	29.52%
	No	148	70.47%
5	Is the patient aware of the correct disposal of the gauze pack?		
	Yes	0	0.00%
	No	210	100.00%
6	If the patient carries a blood-transmittable disease, is he aware of the correct disposal of the gauze pack?		
	Yes	0	0.00%
	No	210	100.00%

DISCUSSION

Even though strict guidelines are present regarding waste disposal in a dental practice, they alone are insufficient to avoid the risk of spread of infection. There are multiple opportunities where individuals could be exposed to the risk of serious viral infections and it is difficult to completely eliminate the spread of viral infection, but maximum effort and motivation is required by both oral surgeons and patients.

The results of our study indicated that oral surgeons did not provide adequate instructions to the patients regarding disposal of the blood contaminated gauze packs that are placed postoperatively following extractions and other oral surgical procedures. Furthermore, most of the patients were not aware of the potential risk of cross infection that could be caused by a blood contaminated gauze pack. Therefore, there could be multiple opportunities where patients with blood transmittable diseases could inadvertently infect others.

Cross infections are not confined solely to the hospital environment. Studies have reported that cross infections have been attributed to non-adherence to recommended infection preventive procedures.^[2,4] In our survey, none of the patients were aware of the correct method of

disposal of blood contaminated gauze pack. Also, none of the oral and maxillofacial surgeons provided additional information on disposal of the same indicating that no attention was paid to this issue. As a result, the contaminated gauze packs were disposed by patients directly in any waste bins they came across; in the clinic, at home or in any public waste bin.

In some practices, oral surgeons provide patients with additional gauze pack that are to be used to control any bleeding once they have left the office.^[3] In our survey we found more than half of the oral surgeons practicing the same. Doctors should aim to minimize incidences which require patients to touch their gauze contaminated with blood. There are various precautions that can be taken to prevent excessive bleeding following oral surgical procedures. Use of local hemostatic agents (sutures, self dissolving sponges, etc) can significantly reduce the need of additional gauze packs. Proper guidelines must also be followed for medically compromised patients with an increased risk of bleeding.^[3]

Most of the patients in this survey used their bare hands to readjust the gauze packs, with a few (10.95%), who did not wash their hands before doing the same.

Chatzoudi (2009) found that 34% patients readjusted the blood soaked gauze pack with bare hands.^[3] Cross infection can not only be caused by contacting the blood-contaminated gauze packs disposed by patients, but also with objects that patients contacted with after they touched the gauze packs with their bare hands.^[3] Oral health-care facilities have infection control guidelines they routinely follow to prevent and control infectious risks in the dental office.^[5] However, outside the hospital environment the responsibility lies in the hands of the patients.

In this study patients were not aware of the correct method of disposal of gauze packs if they had a blood transmittable disease. Most patients do not consider their blood as a possible source of infection and therefore do not realize that improper disposal of their blood contaminated gauze could possibly increase risk of infection to other individuals.^[2,3] Some patients are reluctant to disclose their medical status due to the fear of discrimination.^[2,6] There is a need to promote dentist-patient relations free of discrimination, so that people with HIV/AIDS, Hepatitis, etc are not reluctant to disclose their health status to health care professionals and are confident that such disclosure will lead to care best adapted to their condition.^[6]

Even though it might not be possible to completely avoid any spread of infection, both doctors and patients should make maximum effort to minimize the risk of cross infection. Certain measures can be taken to improve this situation. Firstly, it is absolutely necessary for the oral surgeons to provide both verbal written instructions to the patients as some patients may tend to forget those given only verbally. A greater emphasis should be placed on patient education. Patients need to be informed that their blood, saliva and other body fluids are possible sources of infection, and they should take precautions, even if they are completely healthy.^[2,7] They should be educated on proper and washing before and after contact with the gauze packs and that they should be the only one touching the gauze pack.^[2] In addition, special postoperative instructions should be given to patients with blood-borne diseases, such as hepatitis and AIDS. Oral surgeons should refrain from providing additional gauze packs to patients.^[3] There should be self-sealing bags made available for patients so that contaminated gauze packs can be safely disposed in a manner that no one else can contact it.^[1]

Although there are guidelines for infection control in dental practices, there are no consistent guidelines for patients regarding disposal of blood contaminated gauze packs. The lack of knowledge amongst patients is extremely low and their compliance to follow infection-control guidelines is questionable, especially in a country like India. There is a need to enhance the education of oral surgeons and increase patient awareness. Maximum effort should be made by the doctors and the patients to minimize the risk of cross infections. There is also a need

to create specific policies and guidelines regarding disposal of gauze packs.

Conflict of Interest

None of the authors have any conflict of interest.

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