



Awareness of Herpangina and its Management Among Dental Students

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ABSTRACT

Herpangina or otherwise known as hand-foot and mouth disease is caused by enteroviral infection and are two common related clinical syndromes. These diseases are mostly seen in the paediatric population. It is occasionally seen among adult patients. Herpangina is caused by one particular strain of coxsackievirus A and Enterovirus -A71. The aim of the study was to determine if dental students are aware of the various managements done for herpangina. A survey with nine close-ended questions and three multiple-choice questions were formed and distributed to 100 dental students, respectively. Their responses will determine the level of awareness of students regarding the management of herpangina. The questions elicited awareness on the various aspects of Herpangina disease among dental students. These responses to these questions were tabulated and analysed. 55% of the respondents said Herpangina affected people aged between 3-10yrs. 75% respondents said Herpangina is caused by Group A coxsackieviruses followed by 20% said Streptococcus and 5% said Staphylococcus are responsible. 83% of respondent prescribed antivirals, followed by analgesics. 15% and 2% used antibiotics to treat Herpangina. The awareness about the management strategies of Herpangina among dental students was moderate. Awareness of dental students can always be enhanced by promoting more educational programmes regarding various diseases such as herpangina. It is important as they will play an important role in delivering better health care in the future.

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INTRODUCTION

Herpangina or otherwise known as hand-foot and mouth disease (HFMD) is caused by enteroviral infection and are two common related clinical syn-

dromes. These diseases are mostly seen in the paediatric population (7 to 10 years). It is occasionally seen among adult patients (Yu *et al.*, 2020). Herpangina is caused by one particular strain of coxsackievirus A (CV-A) and Enterovirus -A71 (EV-A71). Herpangina is an acute upper respiratory tract infection. It was found that patients/ individuals with latent infections are the ones who can easily spread the infection. A typical spread of this disease is via the faecal-oral route. Transmission can be from the ingestion of infected saliva, respiratory droplets or direct contact with fluid from vesicles. The incubation period of 3-5 days (Kılınç and Akbaş, 2018; Palani *et al.*, 2018).

There are various clinical manifestations to this disease. Herpangina is an acute disease which is characterised by a sudden onset of fever and sore throat followed by fever which may last up to 2-4 days.

Table 1: Closed ended questions

Questions	Yes	No
1. Are you aware of the disease known as herpangina?	Yes	No
2. Are you aware of its other name?	Yes	No
3. Is herpangina contagious?	Yes	No
4. Is herpangina a viral infection?	Yes	No
5. Is there an antiviral therapy for herpangina?	Yes	No
6. Can herpangina be prevented?	Yes	No
7. Does herpangina cause any signs in the oral cavity?	Yes	No
8. Will mouthwashes help control mouth pain in herpangina patient ?	Yes	No
9. Will a change of diet aid in treatment ?	Yes	No

Table 2: Multiple choice questions

Questions	A	B	C	D
1. Which age group of people are mostly affected?	3-10 yrs	11-19yrs	20-30yrs	31-40yrs
2. Which organism causes herpangina?	Group A coxsackieviruses	Staphylococcus	Streptococcus	
3. What medication are advised?	Antibiotics	antivirals	No medications. Only analgesics	

Table 3: Responses

Questions	Yes	No
Are you aware of the disease known as herpangina?	86	14
Are you aware of its other name?	43	57
Is herpangina contagious?	89	11
Is herpangina a viral infection?	89	11
Is there an antiviral therapy for herpangina?	47	53
Can herpangina be prevented?	93	7
Does herpangina cause any signs in the oral cavity?	97	3
Will mouthwashes help control mouth pain in herpangina patient ?	79	21
Will a change of diet aid in treatment ?	69	31

Cough, rhinorrhoea, vomiting, diarrhoea and sometimes headache, abdominal pain or myalgia and dysphagia in severe sore throat cases can be seen (Pongsumpun and Wongvanich, 2018). Skin eruptions are manifested as papules or vesicles or petechiae on the hand and/or feet or as apthae on the tongue and oral mucosa (Woodland, 2019). There are various oral manifestations as well to this disease such as vesicles, ulceration and diffuse erythema on the

soft palate, fauces and tonsillar area (Palmer *et al.*, 1963; Woodland, 2019). Various differential diagnosis can be given to this disease such as herpetic gingivostomatitis, ulcerative stomatitis, measles and varicella (Zhang *et al.*, 2015).

The only treatment available for this disease is the primary supportive treatments. There is no prophylaxis for herpangina or HFMD (Lalya and Mansouri, 2016). Since herpangina and HFMD disease

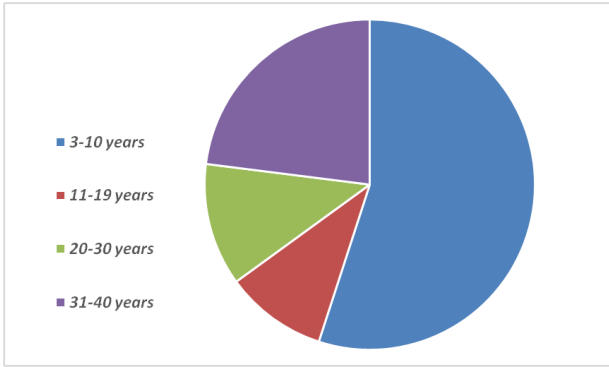


Chart 1: Affected Age Group

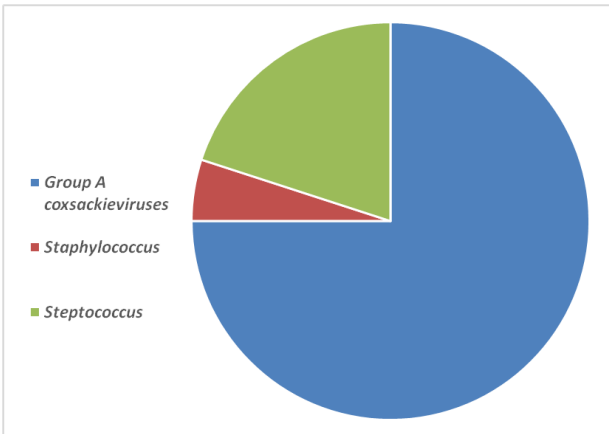


Chart 2: Causative Organism

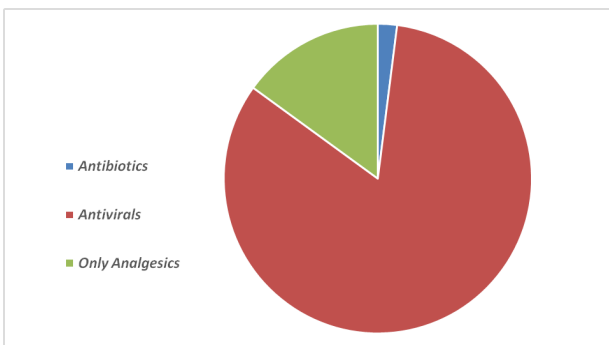


Chart 3: Medications

are self-limiting or short duration and does not require treatment. Symptomatic treatment is indicated in very severe cases of herpangina in which non-aspirin antipyretics and topical anaesthetics can be used (Chen *et al.*, 2020). Lidocaine or topical therapies are not recommended due to the risks for toxicity associated with these medications. The use of intravenous immunoglobulin (IVIG) in Asia to treat patients with herpangina has shown major outbreaks; however, it has no prospective data collected about the use of this drug (Duan *et al.*, 2008). The aim of this study is to determine if dental stu-

dents are aware of the various managements done for herpangina.

MATERIALS AND METHODS

A survey with nine close-ended questions and three multiple-choice questions were formed and distributed to dental students (3rd Yrs, 4th Yrs and Interns) as shown in Tables 1 and 2, respectively. These responses to these questions were tabulated then analysed and studied. Their responses will determine the level of awareness of students regarding the management of herpangina.

RESULTS AND DISCUSSION

A total of 100 students have participated in this survey. The results were obtained and tabulated. Table and charts are done to depict clearly the level of knowledge the students have towards the disease as well as its managements. [Table 3, Charts 1, 2 and 3] Chart 1 shows that 55% of the respondents said Herpangina affected people aged between 3-10yrs. Chart 2 shows 75% respondents said Herpangina is caused by Group A coxsackieviruses followed by 20% said Streptococcus and 5% said Staphylococcus are responsible. Chart 3 shows the majority of respondents, 83% of respondent prescribed antivirals, followed by analgesics 15% and 2% used antibiotics to treat Herpangina.

It was found that around 86% of the students are aware of this disease. It is a very well-known disease, and it was found that in 1998, an epidemic of EV71 infection caused HFMD and herpangina in thousands of people in Taiwan, including 405 severe cases and 78 deaths (Yu *et al.*, 2020). Due to this epidemic, the existence of this disease was known by the population. However, it was found that only 57% of the student was aware that herpangina had another name. As we all know, herpangina was also referred to as hand foot and mouth disease (HFMD). There is still some confusion among the students regarding this fact. It was found that only 55% of the students have correctly identified that this disease mainly affects children, more accurately, children lesser than six years old. There has been a case report of herpangina done in Nagpur, India which shows that a total of 4 cases were reported, (2 male and two female), all these patients had the classic clinical manifestation of oral and skin lesion. The age group of these patients were 3-4-year-old children (Arora *et al.*, 2008; Saoji, 2008).

It was found that about 89% of the students are aware that herpangina is a viral infection and 89% of the students are aware that this disease can be

contagious. Various articles have discussed that this disease is transmitted through the gastrointestinal tract (faecal-oral route) and respiratory route or through contact with an infected person (Arora et al., 2008; Sarma, 2013). Knowledge regarding what type of infection it is should be known by the students so that they can take preventive measure as these dental students deal with patients day in and day out. 75% of the students have correctly identified the causative organism of this disease which is Group A coxsackieviruses. Knowledge regarding the causative organisms distinguished this disease from other disease as well as it can help plan the future treatments needed to be taken.

Herpangina can be prevented and about 93% of the students were aware of this fact. A study was done and found that a strong protective effect of hand-washing could be expected as the main transmission rate is by hand contact. As we know, the transmission of herpangina is by ingestion of infected saliva, respiratory droplets or direct contact with fluid from vesicles. Thus importance regarding the knowledge on how to prevent this disease should be known by the students as we can spread the knowledge to out paediatric patients. 97% of the students are aware that herpangina shows oral manifestations. It is important for dental students to be aware of diseases that show oral lesions such as herpangina (Sarma, 2013).

Regarding the management and treatment of herpangina, 53% of the students have stated that there is not antiviral therapy available for this disease and it is true. There are no drugs indicated for Evs. Broad-spectrum antiviral drugs are generally given for clinical treatments Antiviral drugs such as acyclovir, ganciclovir and monosodium phosphate vidarabine should not be given to herpangina patients as they are anti-DNA viral drugs which have no effect on RNA viruses However about 83% of the students have chosen antivirals as a choice of medication for herpangina. Even though a specific antiviral therapy was not found for herpangina, students should not give any antivirals available. These antivirals have no effect on herpangina. Dental students should be made vigilant about drug prescription as it may have other effects on the patient. A better understanding of the disease will aid its treatment (Ruan et al., 2011).

Diet plays an important role in treating herpangina and 69% of the students do believe this. The patients are advised to have a light meal, advised not to have any hot, spicy, sour, coarse, hard or irritating foods. Liquid or semi-liquid food at small frequent meals are advised. 79% of the students believe that

the use of mouthwashes aids in the treatment of herpangina. Oral care is important as herpangina has many oral manifestations. Lightly salted water or normal saline are recommended for the patients to rinse their mouths after meals These maintain oral hygiene and prevent any other further oral disease and also prevent the spread of the existing disease (Suzuki et al., 2010).

CONCLUSION

The awareness about the management strategies of Herpangina among dental students was moderate. Awareness of dental students can always be enhanced by promoting more educational programmes regarding various diseases such as herpangina. It is important as they will play an important role in delivering better health care in the future.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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