

# VARICELLA IN A DENTAL PRACTICE – REPORT OF TWO CASES OF THE DISEASE WITH ORAL INVOLVEMENT

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## ABSTRACT

Varicella-zoster virus (VZV) infection is common in children and adolescents and in most cases it is an acute but self-limiting condition. The majority of episodes presents with a pruritic, vesicular rash, which develops after 10- to 21-day incubation period. The initial, general symptoms usually include fever, malaise, headache and abdominal pain. However, rarely, serious complications, including pneumonia, cerebral ataxia or pyoderma, may develop as a consequence of this infection. Primary infection results in a lifetime latency of the virus in nerve ganglia and may lead to the development of zoster (shingles) in future. This paper presents two cases of familial transmission of varicella that involved the oral cavity. Both oral and genital mucosa were affected. The oral findings included vesicles, which shortly transformed into erosions, and the exacerbation of geographic tongue, which was observed simultaneously with the development of a general infection. In the paper we describe the sequence of the development of mucocutaneous lesions and we discuss the options of systemic and local treatment in the oral cavity. We show the role of a dentist in the diagnostic process and during the recovery period of a patient infected with varicella and we discuss the methods of prophylaxis.

**KEY WORDS:** varicella, oral pathology, chickenpox.

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## INTRODUCTION

Varicella, or chickenpox, is a highly contagious, acute, mucocutaneous disease caused by varicella-zoster virus (VZV) [1, 2]. Primary infection results in a lifetime latency of the virus in nerve ganglia and may lead to the future development of zoster (shingles) [2, 3]. Oral involvement in chickenpox is relatively common and may cause significant discomfort. We present two cases of familial transmission of varicella that involved the oral cavity.

## CASE REPORT

A 4-year-old female child presented to the Oral Pathology Unit, with a sore throat and mild discomfort after con-

suming sweet and acidic food and beverages. These symptoms were preceded by a moderately severe pruritic vesicular rash, which started on the facial skin and spread to the trunk and extremities. This was shortly followed by the eruption of papules, then vesicles, and pustules (Figure 1).

Intraoral findings included a single vesicle located on the palate and a red patch on the side of the tongue, which clinically resembled geographic tongue. These findings were not however accompanied by fever or malaise. Despite the symptoms, the child was considered to be generally healthy. Based on a characteristic presentation of mucocutaneous lesions, and considering that the outbreak of varicella was also observed in the child's kindergarten, a diagnosis of chickenpox was established. A systemic treatment with acyclovir with a dose of 800 mg, 5 times

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**FIGURE 1.** Cutaneous papules, vesicles and pustules in 4-year-old female patient with varicella



**FIGURE 2.** Vesicle in the oral vestibule in 6-year-old boy with varicella



**FIGURE 3.** Pustule on genital mucosa in 6-year-old boy with varicella

daily, was introduced once the skin lesions appeared together with a chamomile mouth-rinse twice a day. A very comprehensive hygienic regime, including frequent baths, was also introduced. The cutaneous lesions healed forming crusts within approximately 7 days with no scarring.

Two weeks later an itchy, pruritic vesicular rash developed in the 6-year-old brother of the first patient. In this case the skin eruptions were preceded by an episode of high fever and flu-like symptoms that included fatigue and loss of appetite. Papules, followed by vesicles and pustules, were very numerous, itchy and spread to several skin regions, including the scalp and ears. Both the oral and genital mucosae were also affected. Two large vesicles, which shortly transformed into erosions, were found in the child's oral vestibule and on the buccal mucosa (Figure 2).

A papule, followed by a vesicle and pustule, developed on the glans penis and foreskin (Figure 3).

Mucosal lesions appeared simultaneously with the skin eruptions. The relevant medical history of this boy included childhood absence epilepsy, diagnosed the previous year, and since then treated regularly with valproic acid. Also in this case, based on the characteristic presentation of the lesions, and considering the family history, a diagnosis of chickenpox was established. Acyclovir in a dose of 800 mg, 5 times daily, was prescribed for the cutaneous lesions phase and due to severe itching systemic treatment with dimetindene drops was also implemented. Chamomile mouth rinse twice daily and a comprehensive hygienic regime was also introduced. The mucocutaneous lesions healed within approximately 10 days. A single scar remained on the boy's trunk. No other local or systemic complications developed in the siblings.

In both cases, informed consent was obtained from the parent as a part of the routine protocol prior to the clinical examination.

## DISCUSSION

Although chickenpox is generally considered as a benign, self-limiting condition, in some cases it may lead to severe cutaneous, neurological and pulmonary complications, especially in a high-risk population that includes immunocompromised individuals and adults [4-6]. Systemic treatment with acyclovir is generally recommended for high-risk groups, while in the case of immunocompetent subjects, hygienic precautions, antipyretics and antipruritic agents should be considered [6-8]. Prophylaxis also includes vaccination with attenuated live strains, which is recommended in most European countries and is available for children from the age of nine months [1-3, 9]. As mucosal involvement in varicella is common, all dentists should be familiar with the clinical presentation of the lesions. In these cases, characteristic oral findings may accompany cutaneous lesions. A sequence of a papule-vesicle followed by a pustule and

an erosion is typical; however, due to the moist environment of the oral cavity no crusting occurs in the healing phase. In the first case the features of geographic tongue appeared simultaneously with a palatal vesicle. According to the patient's parent, it had not been present at any time before. It can be assumed that the viral infection acted as a trigger and started an immunologic cascade, possibly contributing to the exacerbation of geographic tongue. As in the case of the management of cutaneous lesions, good hygiene is extremely important. Mild herbal mouth rinses or topical analgesics and topical pastes may be considered for reducing the level of patient discomfort. The course of the disease was much more severe in the boy. Although both the children had generally good health before the infection, a history of neurologic disease may have contributed to a poorer immune response in the boy.

## CONFLICT OF INTEREST

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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