

Oral condyloma acuminatum in a child: case report

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Abstract

Oral condyloma acuminatum is a viral-induced lesion and usually a manifestation of infectious venereal disease. It has been stated that venereal lesions in children are pathognomonic of sexual abuse. The literature is reviewed in relation to the etiology, diagnosis, clinical and histological features, and treatment of the lesion. The third case reported in the international literature is presented and discussed.

Condyloma acuminatum is a viral-induced lesion which occurs primarily in the mucous membrane of the anal/genital regions of both males and females (Eller and Eller 1951). It is well established that a virus belonging to the papova group causes this growth as well as other warts which occur on the skin and mucosa (Lever 1975).

The first to describe an oral condyloma acuminatum were Knapp and Uohara (1967). Since then a total of 21 cases appeared in the international literature,¹ suggesting an increased incidence of this lesion in the oral cavity. However, only two of these reports referred to the incidence in children (Marquard and Racey 1981; Ashiru et al. 1983). Genital warts are thought to be one of the four most common sexually transmitted diseases, second only to genital herpes among the sexually transmitted viruses (Wright and Judson 1978).

Oral lesions in children have been associated with preceding or coexisting genital lesions in affected individuals or with the presence of genital warts in their mothers during pregnancy. Autoinoculation from these lesions generally accounts for the intraoral lesions. However, the last report of Ashiru et al. (1983) showed neither skin or genital lesions nor a history of sexual contact, suggesting that a nonsexual mode of viral transmission is possible.

¹ Anneroth et al. 1982; Ashiru et al. 1983; Choukas and Toto 1982; Danilov 1974; Doyle et al. 1968; Doran and Capper 1980; Judson 1981; McClotchey et al. 1979; Malic et al. 1983; Markelow 1971; Marquard and Racey 1981; Seibert et al. 1969; Shaffer et al. 1980; Summers and Booth 1974; Swan et al. 1981.

Clinical Report

A five-year-old white female, was brought to the emergency room of Children's Hospital of Wisconsin (CHW) by her aunt for suspected sexual abuse. The initial physical examination did not indicate evidence of physical abuse.

Six months later, the patient again was seen in the CHW emergency room for pain in the outer left ear. The ear was erythematous with a yellowish crust on the ear lobe. Examination also revealed a wart-like lesion inside the lower lip, 5 mm in diameter. The genitalia were normal. Vaginal cultures proved positive for *Neisseria lactamica*, *N. meningitidis*, and *N. Gonorrhoeae*. A diagnosis of impetigo of left outer ear and gonorrhea was established.

The patient was treated with antibiotics (Pen VK 250 mg/5 cc) and referred to the dermatology clinic for further treatment and to a child advocacy group for follow-up concerning suspected sexual abuse. The dermatology department physicians diagnosed two viral warts, 5 mm and 1 mm in diameter, respectively, that were treated with liquid nitrogen (cryosurgery).

According to the child advocacy report, the parents denied the presence of similar lesions on themselves as well as the possibility of sexual abuse of the child. The social worker who interviewed the child was not able to elicit any information from her.

Thirty-day follow-up in the dermatology clinic revealed one additional lesion adjacent to the previous lesions which had shown no improvement. No warts were present in the genitalia and new vaginal cultures were negative for gonorrhea. The Venereal Disease Research Lab (VDRL) test was also negative.

The child was last seen in the outpatient medical clinic of CHW for impetigo on the nose, lip lesions, and pain in the lower right molar area. She was treated with antibiotics for the impetigo and referred to the dental clinic.

Examination

Extraoral examination revealed several small erythematous lesions around the nose, consistent with impetigo. No swelling was present and nodes were within normal limits. Intraoral examination revealed two lesions in the center of the lower lip (5 mm and 1 mm in diameter, respectively) 1 mm apart with a verruroid appearance and a slightly paler color than normal oral mucosa (Fig 1). A differential diagnosis based on clinical



FIG 1. Intraoral lesions.

findings was squamous epithelial papilloma, verruca vulgaris, or condyloma acuminatum. In addition, there was slight inflammation of the oral mucosa behind the lower right primary molar. A periapical radiograph revealed a normally erupting first permanent molar. No treatment was necessary.

The 2 lesions on the lip were dissected through the submucosal layer and excised under local anesthesia. The larger lesion was sent for histologic examination. At the one-week follow-up visit the site of the wound was healed with slight subepithelial scar tissue. The six-month follow-up was negative for the presence of any intraoral warts. Residual scar tissue was no longer apparent.

Histologic Examination

The specimen sent for histologic evaluation consisted of a mushroom-shaped soft hemorrhagic tissue measuring .7 x .6 x .6 cm (Fig 2). The surface was velvety and verruroid in appearance. The cut surface revealed papillary pinkish white tissue. Sections of squamous epithelium manifested papillary hyperplasia and acanthosis (Fig 3). Many of the squamous epithelial cells showed cytoplasmic vacuolization that causes flattening of the nucleus (Fig 4, next page).

Some of the cells contained irregular hyperchromatic nuclei. The subepithelial connective tissue showed a few mononuclear inflammatory cells. No viral inclusions were identified. The histologic examination confirmed the diagnosis of oral condyloma acuminatum.



FIG 2. Histologic view of the smaller lesion.



FIG 3. Section of the epithelium demonstrating papillary hyperplasia and acanthosis.

Discussion

The clinical and histopathological characteristics of oral condyloma acuminatum in children are fairly unknown and are based on previously published cases in adults. The lesion has been reported to occur in the mucosa of the lip, cheek, palate, gingiva, and tongue. Including the present case, the average age of lesion

occurrence in children is five years and the male-to-female ratio is 1:2.

According to Goldschmidt and Kligman (1958), condyloma acuminatum is an autoinoculable and transmissible disease that can be transferred by poor personal toilet hygiene and/or orogenital contact. There have been cases of oral condyloma acuminatum in which there was no history of genital lesions or sexual contact.² The possibility exists that the virus responsible for oral lesions is a variant or mutant strain of the normal genital virus and that the normal virus that affects the genital area has difficulty establishing or cannot establish itself within the oral mucosa (Swan et al. 1981). In the case reported, no proof of sexual abuse could be established; therefore, a possibly infectious mother or other member of the household (mother was divorced and living with a new friend) might have transferred the virus to the child.

Condyloma acuminatum is characterized histologically by papillary hyperplasia of the covering stratified squamous epithelium, including extensive acanthosis and proliferation of rete ridges. In the stratum spinosum vacuolated cells with small, hyperchromatic nuclei can be seen. The subepithelial connective tissue exhibits a moderate to abundant lymphocytic and plasmocytic infiltration and an increased number of widened capillaries. The presence of viral particles has been confirmed by the electron microscope (Anneroth et al. 1982), but demonstration of the virus is difficult and not always successful (Summers and Booth 1974; Swan et al. 1981). Although the histopathologic appearance cannot be considered pathognomonic, there are some characteristics that will differentiate oral condyloma acuminatum from squamous epithelial papilloma and verruca vulgaris. Verruca vulgaris exhibits papillomatous epithelial hyperplasia with predominant hyperorthokeratinization and acanthosis. A proliferation of the rete ridges also is seen, but characteristically the ridges at the margins are bent in toward the center of the lesion (Lever 1975). Differentiation between squamous epithelial papilloma and oral condyloma acuminatum also is possible in that moderate to marked vacuolization of cells in the spinous cell layer and a dense chronic inflammatory cell infiltrate in chorium is present in squamous epithelial papilloma (Doyle et al. 1968). Recent studies of oral squamous epithelial papilloma, though, showed that a majority of these lesions are accompanied by an inflammatory cell infiltration (Abbey et al. 1980).

Treatment of choice for the intraoral lesions is local excision, electrocautery, or cryosurgery. Small anal/genital lesions usually are treated with podophyllin. By inhibition of mitosis, podophyllin causes cellular necrosis in the basal cell layer and in adjacent parts of the stratum spinosum of the host, so that cells essential for the

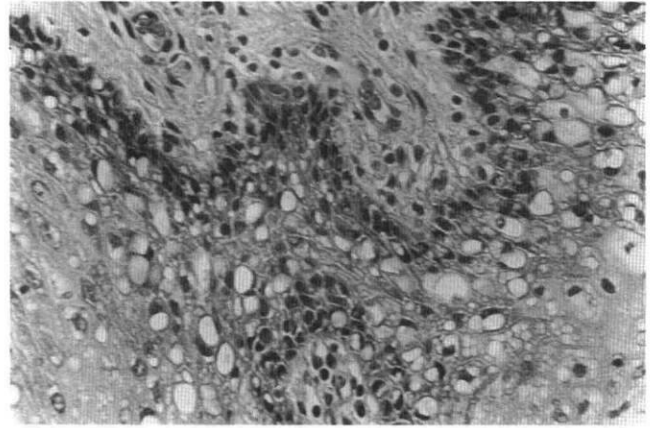


FIG 4. Epithelial cells demonstrating cytoplasmic vacuolization that causes flattening of the cell nucleus.

replication of the virus are destroyed and the viral antigen is liberated to stimulate the immune mechanism. Podophyllin, however, is not effective against oral growths because it is difficult to keep the solution in contact with the lesion in sufficient concentrations for an extended period. In addition, there is the possibility of adverse systemic effects of any mitosis-inhibiting chemical if excessive amounts are taken internally (Naidus et al. 1977). Marquard and Racey (1981) used podophyllin intraorally (5 visits of 2 x 30-min applications followed by 2 x 60 min), but after the reduction of the lesion size, they excised the residual fibrotic nodules surgically.

The etiology of recurrence is not well understood. Some authors suggest lack of sufficient surgical excision (Seibert et al. 1969). Others believe that recurrence can be explained partially by the long incubation period (2-3 months) for the virus, which can result in one or more new generations of lesions and/or by reinfection with the same or different strains of the virus through autoinoculation or transmission from another person (Shaffer et al. 1980).

Unlike gonorrhea, condyloma acuminatum poses no threat of serious injury to health, but is highly suggestive of sexual abuse (Seidel et al. 1979) and the dentist should initiate further investigation and documentation of a medical and social history. Laboratory work-up for suspected condyloma acuminatum should include VDRL and cultures of the pharynx, rectal and genital area for gonococcus, along with biopsy of the lesion. In the event of suspected sexual abuse, the case must be reported to an appropriate community agency so that the family situation can be evaluated by a person skilled in the assessment of potential child abuse.

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²Ashiru et al. 1983; Danilov 1974; Knapp and Uohara 1967; Seibert et al. 1969.

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Shape up for cardiovascular health

The American way of life has changed the American way of fitness. Today, only a few jobs require vigorous, physical activity. Many Americans ride in cars or buses rather than walk, use elevators instead of stairs, and sit at home during free time rather than being physically active. In recent years, however, one of the most visible and encouraging trends in the country is the growing interest in physical fitness. Regular exercise programs are shaping up the hearts of America.

Brisk and sustained (aerobic) exercise contributes to good health in many ways. It improves the efficiency of the heart and increases the amount of oxygen that the body can produce in a given amount of time. People with high blood pressure who perform aerobic exercise regularly under a doctor's supervision usually achieve a slower resting heart rate that is of long-term benefit to the cardiovascular system. Exercise also helps people lose pounds of heart-straining body fat, which in turn may lower blood pressure. People who exercise regularly are more likely to:

- cut down or stop smoking cigarettes
- increase stamina and strength
- burn more calories
- develop greater resistance to stress and fatigue
- improve self-image, which can lead to adoption of other positive health behaviors.

To improve the efficiency of your heart and lungs and burn off extra calories, exercise must be brisk (raising heart and breathing rate), sustained (performed at least 15-30 min without interruption), and regular (repeated at least 3 times a week).