Molluscum contagiosum on tattoo
Molusco contagioso em tatuagem

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Abstract: Molluscum contagiosum is a disease caused by a poxvirus characterized by benign self-limited eruption of single or multiple cutaneous spherical and pearly papules. Transmission usually occurs by direct contact with infected hosts. It is reported the case of a 22-year-old Caucasian male who presented characteristic pearly and umbilicated papules strictly located on the region of a tattoo. Histopathologic exam confirmed the diagnosis of molluscum contagiosum. The authors describe an uncommon manifestation of dissemination of this virus in tattoos and also present a literature review emphasizing the transmission pathways and treatment of Molluscum contagiosum.

Keywords: Molluscum Contagiosum; Poxviridae Infections; Tattoo

INTRODUCTION
The family of poxvirus consists of a comprehensive group of DNA-virus of high molecular weight. It is responsible for diseases that vary from serious and often fatal forms such as smallpox to self limited and localized infections such ectyma and Molluscum contagiosum.¹

Molluscum contagiosum is notable for representing the most frequent condition of this group. It presents universal distribution being more frequent in school children. As for adults, it primarily affects the anogenital region through sexual transmission. Disseminated forms, atypical or giant, not rarely affect immunosuppressed patients.²³ Incubation period varies and individual lesions tend to recede in two or three months. Complete regression of the condition in children tends to occur in up to three years.

Inoculation occurs after direct contact with other affected individuals mainly among brother/sisters and classmates. We emphasize the increasing incidence associated with the use of swimming pools in communities. It usually occurs as a sexually transmitted disease in adults.

The authors report the case of a immunocompetent patient evolving with disseminated Molluscum contagiosum condition restricted to the area of tattoo which had been done seven before.

CASE REPORT
Caucasian male patient, aged 22 referred to the emergence, for about two months, of numerous papules strictly localized on the region of a tattoo. The tattoo had been done seven months before on his back. The tattoo had been done by a professional tattooist , using black pigment , in various sessions, within a total period of four months. About four weeks after the completion of the tattoo the patient noticed the emergence of small bright papules on the site of the tattoo. Lesions were asymptomatic and, according to the patient, they had been progressively increasing during the last months. The patient denied relevant personal or family history and also affirmed that he was not using any medication.

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Dermatological examination of the back showed the presence of around 50 papules, with smooth surface and pearly-white color, most with central umbilication, measuring from two to four centimetres in diameter. Lesions were irregularly distributed on the tattoo, on the back of the patient. (Pictures 1 and 2). Similar lesions were not found on other skin and mucosal areas.

Anatomopathological examination obtained from biopsy material of samples of the back of the patient extracted by curettage showed the presence of large viral inclusion bodies within the cytoplasm of cells, moving the nucleus to the periphery. (Picture 3).

Serologies for hepatitis B and C, HIV and syphilis were negative. New serologies will be carried out due to the possibility of window period in the case of acquisition of other infection during the process of making the tattoo.

Treatment was carried out through curettage of the lesions.

**DISCUSSION**

The clinical lesion of Molluscum contagiosum is characterized by bright and semi-spherical papule usually distinctly umbilicated or with slight central depression, of a few millimeters in diameter. It affects the skin and exceptionally the mucosae. It can be observed, in atopic Molluscum contagiosium, eczema development area around the area of the lesions named *eczema molluscatum*. The lesions, in immunosupressed patients, tend to be disseminated and can take large dimensions.

The dermatological condition of Molluscum contagiosum is generally quite typical and does not present difficulties for diagnosis. Clinical variants such as giant molluscum and follicular variants can make diagnosis more difficult. When indicated, the histopathological examination is quite typical, with viral eosinophilic material (Henderson-Patterson corpuscles) occupying the cytoplasm and moving the nucleus of keratinocytes to the periphery. Epidermis grows into the dermis forming multiple lobes many times closely aggregated. Profile study of the cytokeratins in lesions of molluscum contagious showed alterations in the differenciation of the keratinocytes, evidenced by the presence of cytokeratin K14 and expression of p63 in supra-basal and spinous layer as well as early expression of involucrin and filaggrin. The hyperproliferative state of the epidermis triggered by infection can be confirmed by the presence of cytokeratin K16.

Elective treatment of molluscum contagious is
The procedure of curettage of all lesions. In children the procedure can be done under local anesthesia with lidocaine-prilocaine, applied previously for one to two hours on each lesion. Regression usually occurs without scarring.

When there are numerous and disseminated lesions therapeutics may involve the use of liquid nitrogen, in surgery, or still the application of topical medication such as podophyllotoxin or retinoic acid. The use of intradermal injections of Candida antigen has been reported with variable results. More recently we have demonstrated the efficacy and safety profile of the use of potassium hydroxide (KOH) 5 to 10% in aqueous solution, in the treatment of molluscum contagious in immunocompetent children. The solution must be applied at home by the patient or parents through the use of a swab on each lesion. The applications should be repeated daily until there are signs of erythema or local edema. At this moment, the treatment should be stopped to avoid local irritation. The lesions that have not reeded after the first sessions of the treatment are susceptible to new serial treatments until there is complete regression of the condition. The use of KOH offers a safe alternative, extremely effective and of low cost for the management of molluscum contagious.

Although any infection can be theoretically accidentally inoculated by tattooing, in practice, the most frequently observed are syphilis, tuberculosis, hepatitis and viral warts. As for molluscum contagious, there are few cases in the medical literature reporting the spread of the lesions in tattoos. Foulds reported in 1982 the first case of a male patient, aged 20, immunocompetent that had presented seven lesions on a multicolored tattoo three months after its end. The umbilicated papules were localized only over the black coloration. The author suggested that the inoculation of the virus had probably occurred through the ink. The second case was reported by Salmaso and cols in 2001 and it referred to a young female patient, aged 20, immunocompetent, that had presented 10 lesions over a black tattoo that had been done three weeks before. Perez and cols, in 2006, described the third case of molluscum contagious over tattoo of brown-grayish pigment, five months after the end of the procedure in a young male immunocompetent patient, aged 20. Up to now, in the last three years, three more cases have been reported, all of them in male immunocompetent patients. There are at least two hypothesis to explain the pathogenesis of the lesions of molluscum contagious on tattoos: the viruses being transmitted through instruments used for tattooing, or inks being contaminated by the viruses. Besides that, some authors suggest that the black pigment can decrease, locally, humoral and cellular immunity.

We have reported here a case of molluscum contagious accidentally inoculated in area of tattooing. This relatively frequent skin virosis should be included in the differential diagnosis of infections occurring in the area of tattooing.

REFERENCES


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