Disseminated molluscum contagiosum in a patient on methotrexate therapy for psoriasis

Sir,

Molluscum contagiosum is commonly a self-limiting condition occurring in children, but widespread infection can be encountered occasionally in patients with impaired cellular immunity. We report a case of a 70-year-old man with chronic plaque psoriasis on methotrexate therapy who developed disseminated molluscum contagiosum in resolving plaques of psoriasis. The lesions resolved on stopping methotrexate.

A 70-year-old male having plaque psoriasis for the past 30 years, presented with an asymptomatic papular eruption in healing plaques of psoriasis over the trunk, upper limbs and buttocks for the last 6 months. The patient had received many topical therapies in the past and was receiving methotrexate 22.5 mg weekly for the previous 8 months. Physical examination revealed smooth, discrete, asymptomatic, yellowish papules 2-5 mm in diameter over trunk, limbs, and buttocks [Figure 1], some of which showed central umblication. Plaques of psoriasis were present over the scalp, trunk, and upper limbs. We considered the differential diagnoses of disseminated molluscum contagiosum, milia, granuloma annulare, and sarcoidosis. Cellular material expressed from the center of umblicated papules crushed between two slides and stained with Giemsa stain showed intracytoplasmic molluscum inclusion bodies. Punch biopsy of a papule on the trunk revealed a focal endophytic growth consisting of hyperplastic keratinocytes containing eosinophilic intracytoplasmic inclusions suggestive of molluscum contagiosum [Figure 2]. Routine hematological investigations were normal. An antibody assay for human immunodeficiency virus (HIV) done by enzyme-linked immunosorbent assay (ELISA) was nonreactive and CD4 counts were 960 cells/mm^3.

A diagnosis of disseminated molluscum contagiosum was made, methotrexate was stopped, and the patient was prescribed emollients. The mollusca gradually resolved over a period of 6 months without any other intervention.

Molluscum contagiosum is a skin infection caused by the molluscum contagiosum virus of the Poxviridae family, which is transmitted by direct contact. There are some previous reports of widespread molluscum contagiosum infection in patients treated with

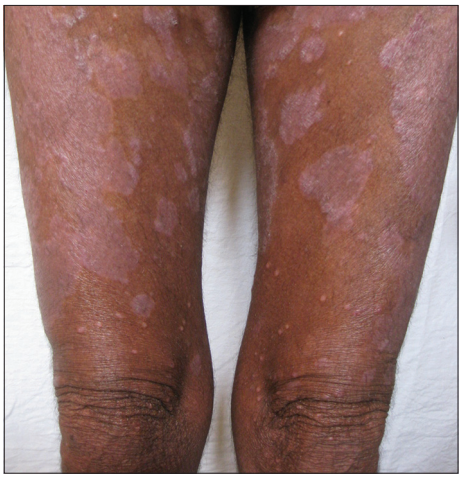

Figure 1: Disseminated discrete skin-coloured to yellow papules along with healing plaques of psoriasis on patient's thighs

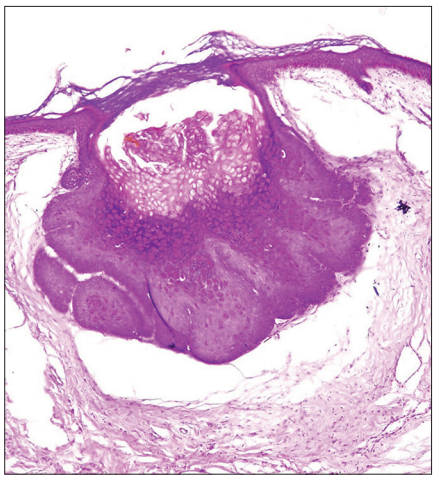

Figure 2: Histopathology of a papule revealing a focal endophytic growth of keratinocytes containing eosinophilic intracytoplasmic inclusions (H and E, original magnification 40)

Table 1: Review of the reports in which methotrexate alone or in combination with other immunosuppressive agents was associated with widespread molluscum contagiosum lesions

	No. of patients	Disease	Treatment for disease (methotrexate)	Site and morphology of molluscum contagiosum	Treatment given
Rosenberg and Yusk (1970)	2	Mycosis fungoides Erythroderma of unknown origin	With prednisolone	Disseminated Skin colored umblicated papules	Patient died No treatment given
Cursiefen and Holbach (1998)	1	Mixed connective tissue disease	Alone	Right eyelid Skin colored papules with central depression	Surgical excision
Cursiefen *et al.*, (2002)	1	Rheumatoid Arthritis	With infliximab	Bilateral eyelid Whitish umblicated papules	Surgical excision
Lim and Foo (2007)	1	Chronic plaque psoriasis	Alone	Disseminated yellowish papules	Methotrexate stopped Cryotherapy
Madan and August (2008)	1	Rheumatoid Arthritis	Alone	Face and neck Papular crateriform excoriated lesions	H_2O_2 1% cream
Fotiadou *et al.*, (2012)	1	Chronic plaque psoriasis	With cyclosporine	Disseminated whitish umblicated papules	Curettage Low dose cyclosporine

methotrexate; either alone or in combination with other immunosuppressive agents, though we could find none from India [Table 1].[1-6] The reported cases had either disseminated lesions or atypical morphology. Methotrexate inhibits deoxyribonucleic acid synthesis by binding to dihydrofolate reductase in immunologically competent cells, and suppresses serum levels of inflammatory cytokines like tumor necrosis factor (TNF) α production through the release of adenosine, and suppressing TNF α-induced nuclear factor κB activation. It also inhibits production of interferon-γ by T-cell receptor-primed T lymphocytes.[7] Suppressed activity or decreased production of TNF α and INF-ϒ by methotrexate may explain the susceptibility to molluscum contagiosum infection despite normal CD4 counts. In our patient, withdrawal of methotrexate led to clearance of mollusca in 6 months favoring a strong association of the drug with the development of disseminated infection.

Treatment options for disseminated molluscum contagiosum developing with immunosuppressive therapy include discontinuing the immunosuppressive therapy followed by manual extraction, chemical cauterization, or cryotherapy.

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