Molluscum Contagiosum–Induced Erythema Annulare Centrifugum

Erythema annulare centrifugum (EAC), whether as a distinctive entity or a reaction pattern, manifests characteristic clinical and histopathologic features. It has been associated with infectious agents, particularly dermatophytes, other fungi (eg, Candida species, Penicillium species), bacteria (eg, Mycobacteria species, Streptococcus species, Escherichia coli), viruses (eg, poxvirus, Epstein-Barr virus, varicella-zoster virus, human immunodeficiency virus), and parasites. Less commonly, EAC has been linked to drugs, connective-tissue disease, sarcoidosis, hypereosinophilic syndrome, and pregnancy. However, many of these associations are likely coincidental, and in most cases, no underlying cause is identified. Herein, we report a case of EAC caused by molluscum contagiosum.

Report of a Case | A 45-year-old man, in relatively good health, presented with several gradually enlarging plaques on the bilateral upper thighs of 1 month's duration. On physical examination, several annular plaques, 0.5 to 5.0 cm in diameter, with raised edges and trailing scales behind advancing borders were found on the bilateral upper thighs and left inguinal area (Figure 1A). In the center of each plaque, there was a single 2-mm reddish-brown shiny papule (Figure 1B). In addition, some smooth, shiny, pearly, and firm papules without peripheral erythema were also observed on the right lower abdomen and the bilateral posterior thighs. He reported that these lesions were sometimes itching and sometimes painful.

A skin biopsy specimen was obtained from the central papule on the right upper thigh. Histopathologic examination showed lobulated, endophytic epidermal hyperplasia, with a very large eosinophilic intracytoplasmic inclusion in each keratinocyte (Figure 2A). These features demonstrated molluscum contagiosum. Heavy superficial perivascular lymphohistiocytic infiltrates, focal basal vacuolization, mild spongiosis, and mounts of parakeratosis were also observed around the main lesion (Figure 2B). These peripheral findings were compatible with the histopathologic features of superficial EAC.

Discussion | Molluscum contagiosum is a common epidermal infection caused by a poxvirus of the Molluscipox virus genus.
Approximately 10% of patients develop an eczematous reaction around the central molluscum papules. Other unusual reactive processes associated with molluscum infestation include id reaction, erythema multiforme, and erythema annulare centrifugum. Erythema annulare centrifugum associated with molluscum contagiosum was first described by Vasily and Bhatia in 1978. To our knowledge, there are only 2 reports of this phenomenon in the literature. Based on the characteristic finding of annular erythema with trailing scale behind the advancing erythematosus edge and compatibility of the histopathologic findings in our case, we diagnosed molluscum contagiosum–induced EAC. All lesions resolved within 2 weeks after cryotherapy for molluscum papules and topical treatment with fluocinonide, 0.05%, cream for peripheral erythema.

The pathogenesis of molluscum contagiosum–associated reactions remains obscure. One hypothesis proposed that rupture and discharge of molluscum bodies into the surrounding dermis elicits an immunologic reaction that clinically presents as dermatitis surrounding inflamed molluscum papules. In our case, EAC-like reaction was mainly confined to the lesions on intertriginous areas and the right lateral thigh, which were prone to friction, resulting in the rupture of molluscum bodies. Sites of varying friction might explain why some molluscum papules developed around an EAC-like reaction, but others, owing to less friction on the right lower abdomen and bilateral posterior thighs, did not.

In conclusion, our case illustrates EAC as a reaction pattern that could be induced by molluscum contagiosum. It probably represents an immunologic reaction to viral antigens. Clinicians should keep this phenomenon in mind while dealing with patients with EAC or molluscum contagiosum.

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An Unusual 2-Tone Epidermal Cyst: Dermoscopy, Confocal Microscopy, and Histopathologic Correlations

Noninvasive techniques such as dermoscopy and reflectant confocal microscopy (RCM) may enhance the diagnosis in some unusual nodules, as illustrated by the present case.

Report of a Case | A woman in her 30s reported changes in the last 6 months to an originally asymptomatic nodule on her right thigh. The 2-tone lesion of about 0.5 × 1 cm appeared to be exophytic and well demarcated; half of the lesion appeared whitish, and the other half was black (Figure 1A). Polarized-light dermoscopy (DermLite hybrid; 3Gen) showed the presence of 2 well-defined areas; one of them had a homogeneous yellowish color, the other was irregularly bluish. Within the bluish area, a circular, keratin-filled pore was observed (Figure 1B).

Analysis by RCM, performed with the handheld VivaScope 3000 (Mavig GmbH), showed beyond the pore a keratin-filled duct extending below the epidermis. In addition, just beneath a thinned epidermis, highly reflectant, geometrical, platelike structures with notched corners were revealed (Figure 2A). Histopathologic analysis of the excised nodule demonstrated the presence of a superficial epidermal cyst with squamous epithelial lining containing several cholesterol clefts (Figure 2B). A large area of the lesion was filled by a foreign-body, giant-cell reaction and some red blood cell extravasations.

Discussion | An epidermal cyst is a common, keratin-filled, epithelial-lined cyst of the skin. It is usually a slow-growing, asymptomatic, dermal or subcutaneous elastic nodule that may be skin colored or yellowish white when located near the skin surface. The cyst may be connected to the surface by a duct, and the clinical identification of the corresponding pore represents a diagnostic clue. Two previous studies have highlighted the usefulness of dermoscopy in identifying the pore, described as a keratin-filled, roughly circular orifice that may be whitish, yellow, brown, or black.

In our case, dermoscopy of the nodule revealed the presence of the pore along with 2 sharply demarcated areas, each showing a different color. Histopathologic analysis showed an epidermal cyst corresponding to the yellowish area along with a foreign-body giant-cell reaction and red blood cell extravasations, likely the result of the cyst rupture, responsible for the bluish color.

A noninvasive technique, RCM is increasingly being used for several dermatologic conditions other than melanocytic tumors. Unlike conventional vertical histopathologic sections, it provides 2-dimensional pictures representing horizontal (en face) scans of the skin. Superficial laser depth penetration (250 μm) represents a limitation in the assessment of epidermal cysts, which are generally located deeper in the dermis and the subcutis. In our case, RCM allowed us to identify not only the pore but also the duct underneath, which appeared as a keratin-filled roundish canal penetrating down into the epidermis.