# An Eruptive Collagenoma Mimicking Phrynoderma in an Adolescent Girl

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Sir,

An eruptive collagenoma is a type of connective tissue naevus. It is characterized by abrupt appearance of skin-coloured papules, nodules and plaques on extremities, head, neck of adolescents.[1,2] Its incidence and pathogenesis are elusive and it has no family history or systemic involvement.[3] Herein, we present an Indian adolescent girl with multiple raised skin-coloured papular lesions on extremities and trunk, clinically diagnosed as phrynoderma, proven to be eruptive collagenoma on histopathology.

A 15-year-old girl presented to our dermatology department with a history of multiple, raised skin-coloured lesions on both elbows, knees, shoulders and back of 5 months duration. The lesions were mildly itchy and were gradually progressing to involve the neck, flanks, peri-umbilical area as well as palms and soles. There were no systemic or ocular complaints. The patient was hailing from a low socio-economic background. She was born of a non-consanguineous marriage and there was no history of similar lesions in the family. She had received oral supplement of vitamin A and B complex for 3-4 weeks without significant improvement.

Cutaneous examination revealed clusters of shiny skin-coloured keratotic looking follicular and also non-follicular papules on elbows [Figure 1], knees, shoulders, flanks [Figure 2], peri-umbilical area [Figure 3], palms and soles, firm and non-tender on palpation. The differential diagnoses considered at this stage were phrynoderma, lichen scrofulosorum, keratosis pilaris and perforating dermatoses.

Biopsy from a papule showed coarse pinkish thick collagen in haphazard arrangement in reticular dermis, with overlying epidermis appearing apparently normal [Figure 4]. Masson Trichrome stain revealed increased number of haphazardly arranged coarse collagen fibres [Figure 5], whereas Verhoff Van Gieson stain showed decreased number and size of elastin fibres [Figure 6]. This pointed towards the diagnosis of collagenoma, and the patient was diagnosed as eruptive collagenoma on the basis of clinical and histopathologic picture.

Connective tissue naevi are hamartomas due to abnormal proliferations of collagen, elastin and/or proteoglycans.[2] Eruptive collagenoma is an acquired type of connective tissue naevus first reported and named by Colomb in 1955.[4] It is a rare dermatosis and the current literature is limited to about 35 cases reported. The exact pathogenesis of this condition is unknown. It is characterized by reduced collagenase enzyme and increased deposition of Type 1 collagen.[2]

Collagenomas were first classified by Uitto *et al*.[5] based on the pattern of distribution as localized or generalized and on the mode of inheritance as acquired or inherited. The shagreen patches of tuberous sclerosis and familial cutaneous collagenomas are the inherited types, whereas acquired types include eruptive and isolated collagenomas. Eruptive collagenoma is characterized by sudden eruption of clusters of asymptomatic papules on extremities, head, neck, trunk in paediatric

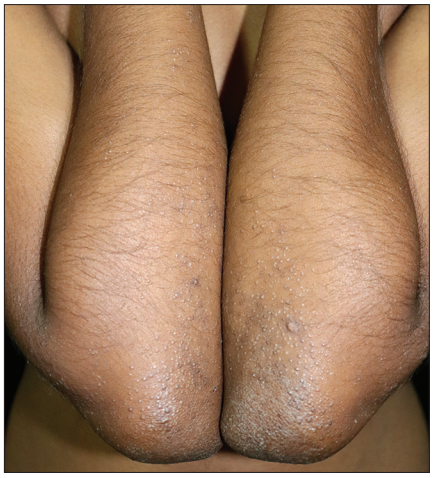

**Figure 1:** Multiple skin-coloured keratotic looking follicular and non-follicular papules on elbows

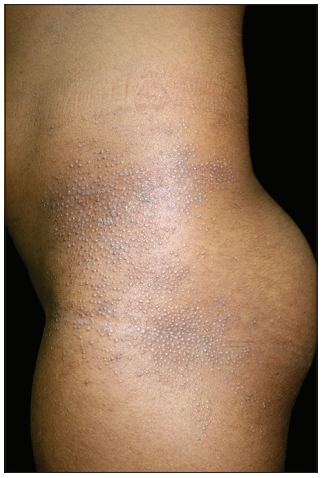

**Figure 2:** Multiple discrete, 2-5 mm in diameter, firm, non-tender skin-coloured to slightly hypopigmented papules over flanks and upper lateral thigh

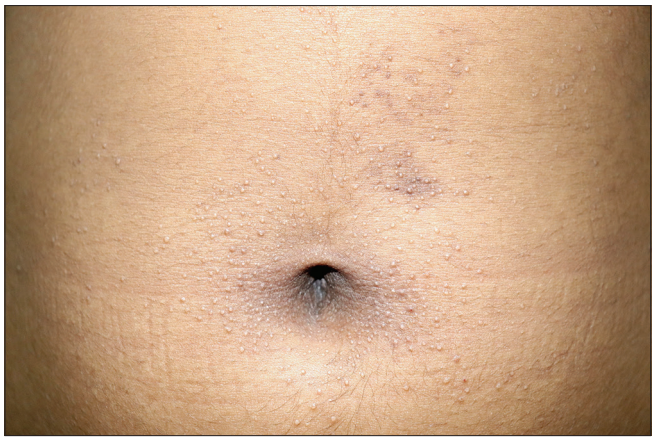

**Figure 3:** Discrete, 1-3 mm in diameter, skin-coloured papules around the umbilicus

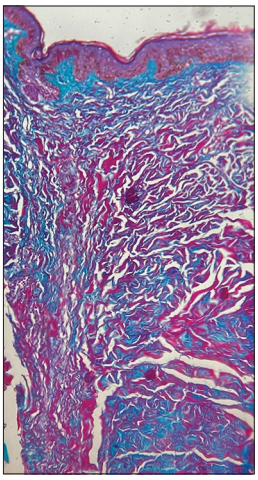

**Figure 5:** Increased number of haphazardly arranged coarse collagen fibres throughout the dermis (Masson trichrome stain, x10)

and adolescent age-group with a slight female preponderance.[3] Familial cutaneous collagenomas are more common in adolescent age group than eruptive collagenomas and are characterized by predominant involvement of the back. Eruptive collagenomas are seen more commonly on extremities. Familial cutaneous collagenomas have a more florid eruption with more numerous lesions and have a positive family history and systemic involvement.[2]

Histopathology shows dense, coarse, haphazardly arranged collagen fibres and decreased, fragmented, coarse elastic fibres in the reticular dermis compared to the normal skin.[1,2] Special stains for collagen-like Masson trichrome as well as for elastin-like Verhoff Van Gieson or Orcein may be used for confirmation of diagnosis.

Elastic naevus, naevus anelasticus and papular elastorrhexis, scars and anetoderma are the differential diagnosis of eruptive collagenoma.[2] Treatment options are few and include topical keratolytic agents. This disorder appears to be difficult to cure.[3]

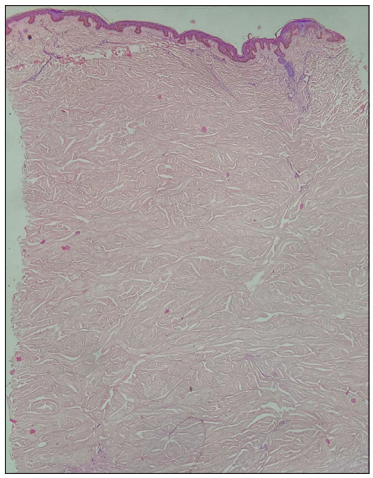

**Figure 4:** Biopsy showing coarse thick haphazardly arranged collagen throughout the dermis (H and E, x10)

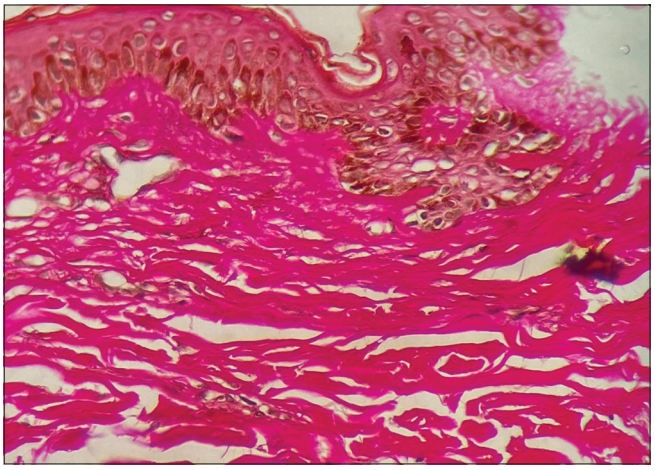

**Figure 6:** Markedly decreased elastic fibres in the dermis (Verhoff-Van Geison stain, x40)

Our patient was diagnosed as phrynoderma based on clinical appearance of exclusively papular and predominantly follicular lesions without any nodules or plaques, distributed mainly on extensor aspects of extremities, shoulders and back, with patient hailing from a low socio-economic background. Phrynoderma or toad skin is thought to be a non-specific manifestation of deficiencies of various nutrients including Vitamins A, B2 and C, and essential fatty acids. It is characterized by follicular keratotic papules on extensor aspects of extremities with sparing of palms and soles. Histopathology shows keratinous plugs within follicles, hyperkeratosis and atrophy of sebaceous glands. It may be accompanied by ocular manifestations like night blindness, conjunctival xerosis, keratomalacia when due to vitamin A deficiency, along with a variety of systemic complaints. The common differential diagnoses are keratosis pilaris, pityriasis rubra pilaris, lichen nitidus, lichen scrofulusorum, pityrosporum folliculitis, etc.

The presence of itching, involvement of palms and soles along with lack of ocular and systemic complaints pointed away from the diagnosis of phrynoderma. Histopathology was conclusive and helped in clinching the diagnosis.

Our case is a first ever case of eruptive collagenoma which clinically mimicked phrynoderma. This rare entity which may masquerade as a number of entities can be diagnosed clinically and confirmed on histopathology. A high index of suspicion is required for the same.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

## References

1. Sonkusale P, Jain S, Deshmukh A. Eruptive collagenoma: A rare entity in pediatric age. Indian J Paediatr Dermatol 2019;20:240-2.
2. Sharma R, Verma P, Singal A, Sharma S. Eruptive collagenoma. Indian J Dermatol Venereol Leprol 2013;79:256-8.
3. Xiao M, Yang L, Dong L, Wang Y, Sun X, Tao J, *et al*. Three cases of eruptive collagenoma and a literature review, 1970-2012. Eur J Dermatol 2014;24:384-5.
4. Zhao C, Ma W, Wang Y, Sun Q. Female with eruptive collagenoma clustered in the left lateral aspect of the abdomen. J Dermatol 2010;37:843-5.
5. Uitto J, Santa Cruz DJ, Eisen AZ. Connective tissue nevi of the skin. Clinical, genetic, and histopathologic classification of hamartomas of the collagen, elastin, and proteoglycan type. J Am Acad Dermatol 1980;3:441-61.



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