

# Papular Elastosis

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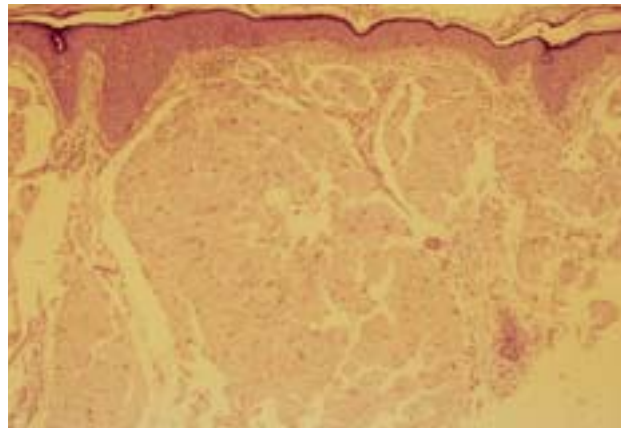
*I report two typical cases of a cutaneous disorder caused by sunlight, which is common in Phoenix, Arizona, "The Valley of the Sun." It currently masquerades under the misnomer, adult colloid milium. It generally presents clinically as asymptomatic, shiny, smooth, firm papules, 1 to 10 mm in diameter, involving chronically sun-damaged skin of adults. The papules are generally multiple, but may be solitary, with various colorations. Microscopically, the papules all show severe elastosis involving most of the papillary cutis. It is most important to biopsy these lesions because clinically they may mimic a variety of skin lesions, some of which would require further investigations and therapy. This is a distinct clinical form of severe solar elastosis, which I propose to term papular elastosis.*

"The Valley of the Sun," Phoenix, Arizona, is a haven for many skin disorders caused partially or wholly by sunlight. These include cancers, pigmentations, inflammatory diseases, and most notable and most common, a degenerative disorder—solar elastosis. I report two examples of a papular form of severe solar elastosis that has been masquerading under the misnomer adult colloid milium, and that I propose to term papular elastosis.

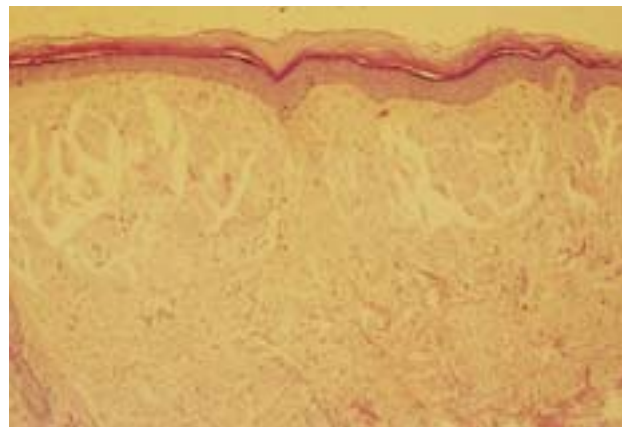
## Case Reports

**Case I**—A 62-year-old white man presented with a skin-colored, smooth-surfaced, firm papule involving the skin over the left jaw. It measured 10 mm in diameter. The lesion was asymptomatic and had been present for about 3 years. The clinical impressions were adult colloid milium and intradermal nevus. A shave biopsy was performed.

**Case II**—A 51-year-old white man presented with multiple gray, smooth-surfaced, firm papules involving the dorsa of both hands and wrists. The papules ranged in size from 2 to 4 mm in diameter. The lesions were asymptomatic and had been present for approximately 2 years. The clinical impressions were adult colloid milium and pyoderma. A 3-mm punch biopsy was performed.

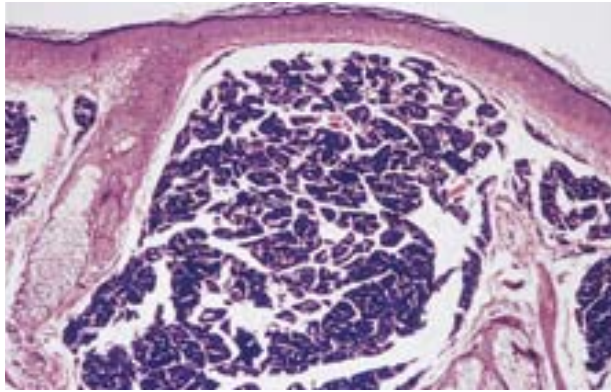


**FIGURE 1.** Scanning view of Case I shows severe solar elastosis characterized by extensive basophilic degeneration of the connective tissue involving most of the papillary cutis except for a narrow subepidermal "grenz" zone (H&E; original magnification,  $\times 40$ ).

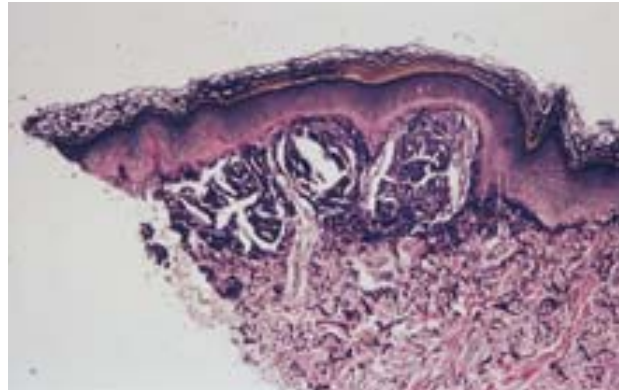


**FIGURE 2.** Scanning view of Case II shows severe solar elastosis characterized by extensive basophilic degeneration of the connective tissue involving most of the papillary cutis except for a narrow subepidermal "grenz" zone (H&E; original magnification,  $\times 40$ ).

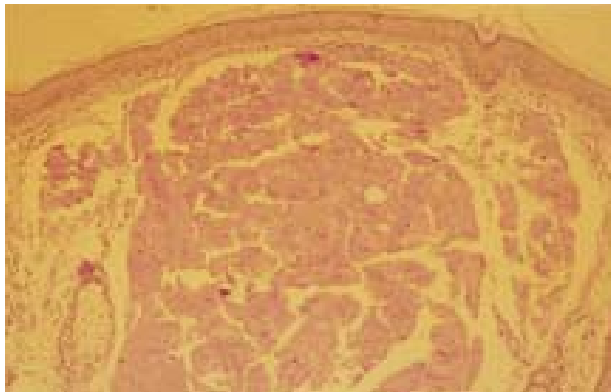
In both cases, no gelatinous material could be expressed from these papules. Microscopically, the lesions showed severe solar elastosis characterized by extensive basophilic degeneration of the connective tissue involving most of the papillary cutis, except for a narrow subepidermal "grenz" zone (Figures 1 and 2). This elastotic material stained strongly positive for



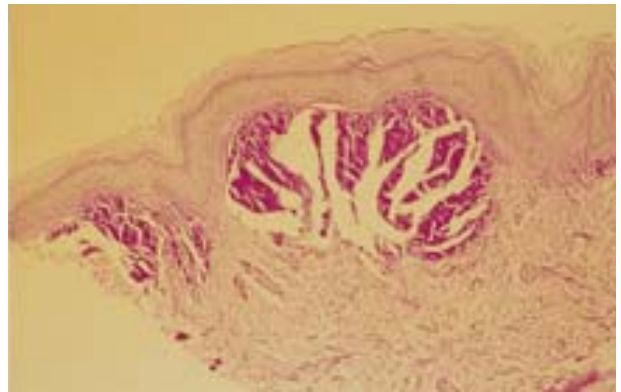
**FIGURE 3.** Same view as Figure 1 shows strongly positive staining of elastotic material (stains black) for elastic tissue (Verhoeff-van Gieson; original magnification,  $\times 40$ ).



**FIGURE 4.** Same view as Figure 2 shows strongly positive staining of elastotic material (stains black) for elastic tissue (Verhoeff-van Gieson; original magnification,  $\times 40$ ).



**FIGURE 5.** Same view as Figure 1 shows weakly positive staining of elastotic material (stains purple) for neutral mucopolysaccharides (periodic acid-Schiff with diastase; original magnification,  $\times 40$ ).



**FIGURE 6.** Same view as Figure 2 shows strongly positive staining of elastotic material (stains purple) for neutral mucopolysaccharides (periodic acid-Schiff with diastase; original magnification,  $\times 40$ ).

elastic tissue (Figures 3 and 4). The elastotic material appeared largely amorphous. There were relatively small areas that appeared granular and fibrillar. This material stained positive for neutral mucopolysaccharides ranging from weakly positive (Figure 5) to strongly positive (Figure 6). There was no correlation between the intensity of this stain and the morphology of the elastotic material. A congo red stain for amyloid was negative in both cases. Similar staining patterns have been observed by others.<sup>1</sup>

### Comments

Solar elastosis is considered to represent a connective tissue alteration involving the upper dermis caused by chronic sun exposure. These changes appear to be largely degenerative and their intensity is variable histologically. Clinically, there is a variety of solar elastotic syndromes. One of them has been termed colloid milium, which has been classified into three different subtypes<sup>1,2</sup>—the rare juvenile form due to ac-

tinic degeneration of keratinocytes; pigmented colloid milium associated with exogenous ochronosis; and the adult type, which represents the subject of this report.

Adult type colloid milium generally presents as multiple, firm, dome-shaped papules, 1 to 10 mm in diameter, but also may present as a solitary lesion. They are smooth-surfaced and often shiny with various colorations that include skin-colored, amber, yellow, brown, and gray. They have been described as semi-translucent and translucent. Gelatinous material<sup>1,3</sup> has been expressed from them in some cases. They involve the chronically sun-exposed skin of white or fair-skinned individuals. They are generally asymptomatic, but may be pruritic. Immunohistochemical and ultrastructural studies<sup>2,4,5</sup> indicate that the lesions are composed mainly of degenerated elastic fibers, and that the elastotic material designated as colloid represents a final degeneration product of actinically damaged elastic fibers. However, although

still unclear, the possibility exists that this elastotic material may be newly formed from sun-damaged fibroblasts.<sup>1,3</sup> It may represent a combination of both.

In "The Valley of the Sun," this is a very common disorder. Clinically, it may mimic a variety of cutaneous disorders, most commonly basal cell carcinoma, which requires more aggressive therapy. Other disorders include intradermal nevus, fibrous papule, angiofibroma, xanthoma, dermatofibroma, neurofibroma, trichoepithelioma, milium, pyoderma, and amyloidosis, some of which require further investigations and therapy. I believe that the term adult colloid milium is a misnomer. The lesion is not a milium and, for the most part, is not physically colloid. The periodic acid-Schiff stain with diastase indicates that the elastotic material contains variable amounts of glycoprotein, and that the intensity of this stain is directly proportional to the amount of glycoprotein. Studies have shown that this material contains "structural glycoprotein."<sup>6</sup>

In summary, I have presented two examples of a common clinical form of severe elastosis caused by chronic sun exposure. It has masqueraded under the

term adult colloid milium. I propose to call this disorder papular elastosis. Clinically, it may be indistinguishable from a host of other cutaneous disorders, some of which may require further investigations and therapy. Thus, a biopsy of this lesion is imperative.

## REFERENCES

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