Case in Point

Eruptive Collagenomas, Suprasellar Meningioma, and Elevated Prolactin in a Patient With a History of Papillary Thyroid Carcinoma

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In this unique case study of a patient diagnosed with eruptive collagenomas, the authors explore the patient's constellation of symptoms that resulted in no causative conclusion.

Connective tissue nevi are defined as hamartomas of dermal connective tissue components.[1] They are classified according to the extracellular connective tissue component that predominates. In collagenomas, collagen is most prevalent; whereas other connective tissue nevi can consist of excess elastin fibers or glycosaminoglycans.[2] Collagenomas can occur in many different clinical scenarios, and in this report, we describe a unique case of eruptive collagenomas occurring in a patient with a concurrent suprasellar meningioma, an elevated prolactin level, and a previous history of papillary thyroid cancer.

CASE REPORT

A 42-year-old white female presented for a routine skin cancer screening. Physical examination revealed numerous skin-colored, well-circumscribed, rubbery papules 2 mm to 3 mm of the posterior neck and entire back (Figure 1). The papules were asymptomatic and had been present for fewer than 3 months. The patient stated that she had also noticed irregular menstrual cycles and bilateral galactorrhea during the preceding month. The patient's past medical history was notable for a diagnosis of papillary thyroid cancer 4 years earlier. The malignancy had been treated with thyroidectomy and radioactive iodine ablation during the same year that it was diagnosed. The patient had no family history of collagenomas, tumor syndromes, or any other inherited medical conditions.

Two of these papules were biopsied from the patient's lower back, and hematoxylin and eosinophil (H&E) staining of the lesions showed a focally thickened dermis with increased papillary and upper reticular collagen (Figure 2). A Verhoeff-van Gieson stain revealed a focal decrease in elastic tissue in the papillary and upper reticular dermis, consistent with a diagnosis of collagenoma (Figure 3).

Further workup revealed an elevated prolactin of 77 µg/L (3.9-29.5), using appropriate dilution. A magnetic resonance image (MRI) of the patient's brain was subsequently obtained and revealed a suprasellar mass 3.5 cm x 3 cm (Figure 4). A left pterional craniotomy was performed, and biopsy of the suprasellar mass was consistent with a meningioma. The patient received external radiation therapy for this inoperable suprasellar meningioma, and genetic testing for multiple endocrine neoplasia type 1 (MEN-1) was negative.

DISCUSSION

Collagenomas can resemble other connective tissue nevi, as well as a variety of additional skin lesions. A biopsy specimen is required to make the diagnosis.[2] The differential diagnosis of collagenomas includes scar and papular elastorrhexis, as well as many types of neural, fibrous, and adnexal neoplasms. Previously documented types of collagenomas include familial cutaneous collagenoma (those associated with genodermato-

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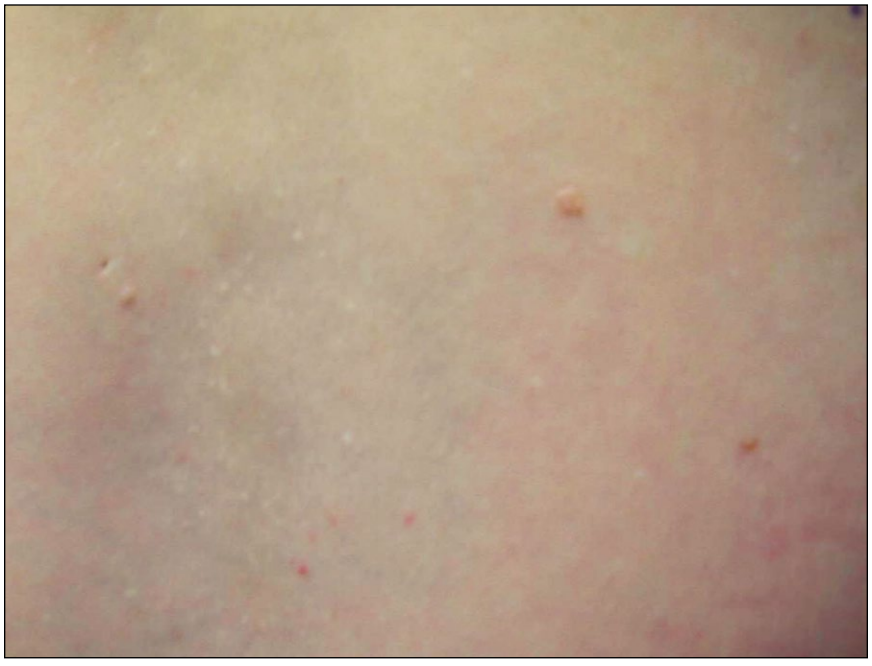

Figure 1. Morphology of skin lesions. Multiple, pale, well-circumscribed, asymptomatic, flat-topped, rubbery papules 2 mm to 3 mm.

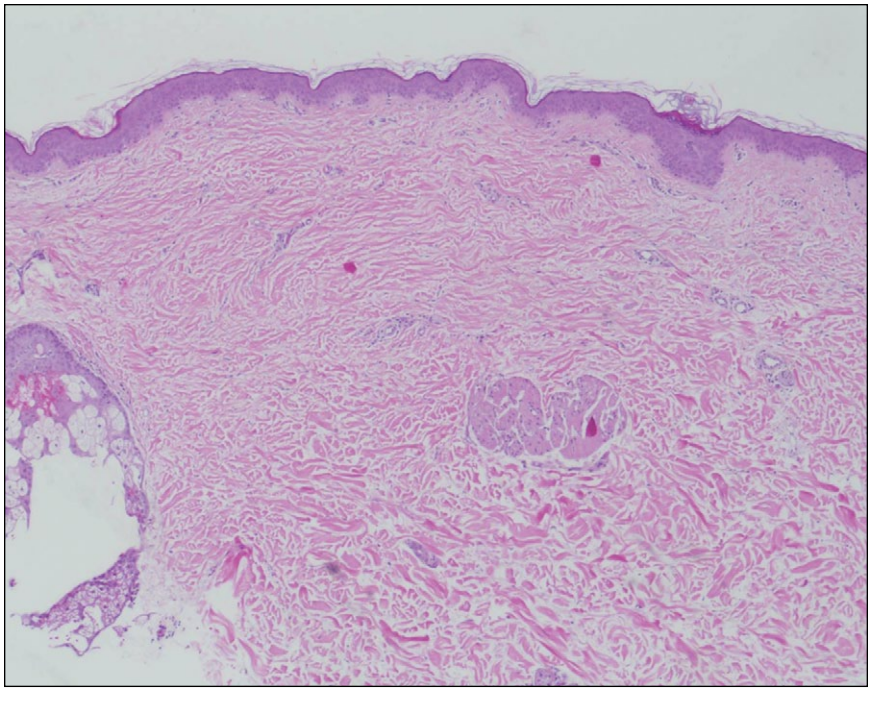

Figure 2. H&E stain of lower back papule. Focally thickened dermis with increased papillary and upper reticular collagen.

ses), isolated collagenomas, and eruptive collagenomas.[3]

Familial cutaneous collagenomas are inherited in an autosomal dominant pattern. These lesions most commonly appear during puberty and when a family history of collagenomas is present. Collagenomas can also occur in various genodermatoses, such as tuberous sclerosis and Buschke-Ollendorf, Birt-Hogg-Dubé, Cowden, Proteus, and Hunter's syndromes. This patient had no clinical features or family history of any of these conditions. Isolated collagenomas are slow growing, have no specific inheritance pattern or systemic findings, and often occur in adolescence.

Eruptive collagenomas are nonfamilial, develop rapidly, and have been associated with derangement of various hormone levels. Increased frequency of eruptive collagenomas has been seen in conditions such as pregnancy and MEN-1. For example, 72% of the patients seen at the National Institutes of Health for evaluation of MEN-1 over a 3-year period were noted to have collagenomas.[4] Endocrine glands most commonly affected in MEN-1 are the parathyroid, pancreas, and pituitary. Although the findings of collagenomas and elevated prolactin are sensitive for MEN-1, they are not specific. More specific genetic testing was offered to this patient in order to evaluate for the presence of MEN-1.

Attempting to make an association between the patient's previous history of papillary thyroid cancer and her findings at presentation, we reviewed the literature, which revealed that papillary thyroid cancer has been previously reported in association with meningioma.[5,6] Furthermore, it has been postulated that suprasellar tumors induce hyperprolactinemia by compressing the pituitary stalk, resulting in impaired dopamine de-

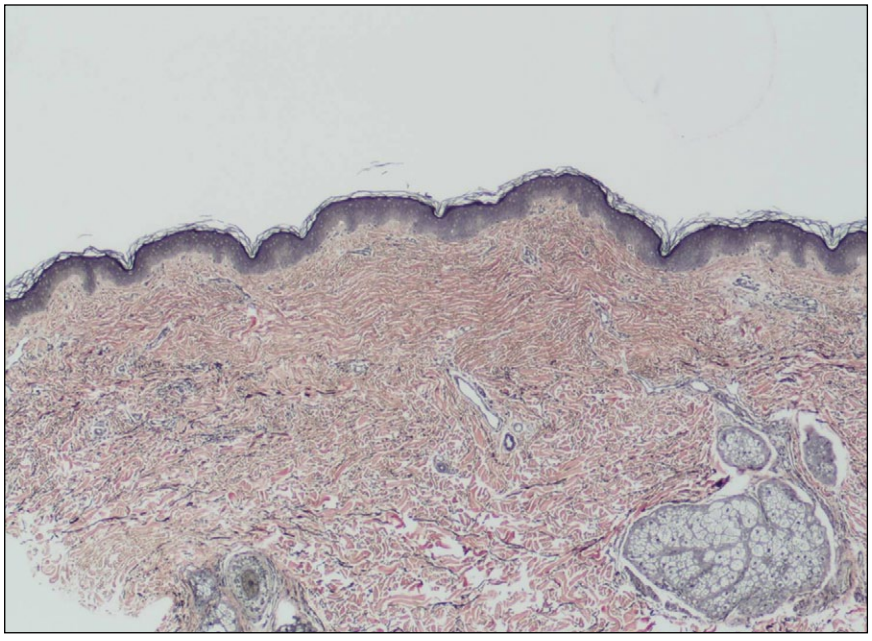

Figure 3. Verhoeff-van Gieson staining highlights focal decrease in elastic tissue in papillary and upper reticular dermis.

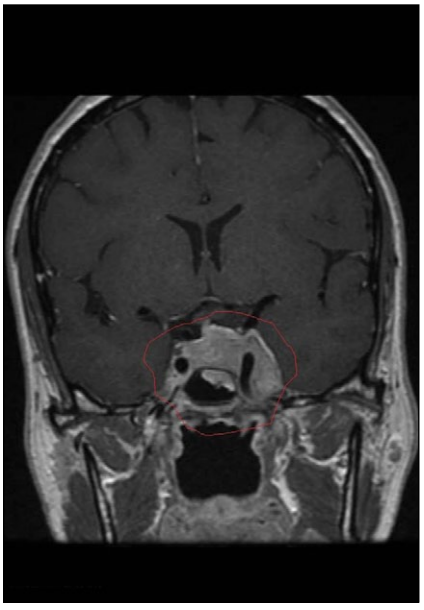

Figure 4. MRI of patient's brain revealed a suprasellar mass 3.5 cm x 3 cm; a biopsy was consistent with meningioma.

livery from the hypothalamus and, consequently, disinhibition of the lactotrophs. An alternative hypothesis is that suprasellar tumors produce a specific factor that stimulates prolactin secretion.[7]

In addition to the patient's collagenomas, the only other abnormalities noted were her suprasellar meningioma, elevated prolactin level, and history of papillary thyroid cancer. This unique constellation of findings had not been previously documented in the literature. It suggests that her collagenomas may have been caused by a hormonal derangement, and prolactin is a potential focus of further investigation into the etiology of eruptive collagenomas. ●

Author disclosures

The authors report no actual or potential conflicts of interest with regard to this article.

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