

Multiple Subcutaneous Dermoid Cysts

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PRACTICE POINTS

- The majority of dermoid cysts are congenital; however, they may be acquired from traumatic implantation of epidermal elements into the dermis.
- The most common location for dermoid cysts is the lateral third of the eyebrows; however, they also may occur on the mid forehead, scalp, nose, anterior neck, and trunk.
- Imaging studies may be needed to rule out intracranial or intraspinal extension of dermoid cysts, particularly for those presenting in the midline.

To the Editor:

A 30-year-old man with no notable medical history presented to the dermatology clinic with multiple subcutaneous nodules on the forehead of 5 years' duration. He reported no history of forehead trauma or manipulation of the lesions, and there was no accompanying pruritis, pain, erythema, or purulent discharge. There was no family history of skin or gastrointestinal tract tumors. On physical examination, the patient had 5 firm, flesh-colored to yellow nodules measuring approximately 0.2 to 1.5 cm in diameter without central punctae scattered over the central forehead (Figure 1). Due to cosmetic concerns, the patient elected to pursue surgical excision of the lesions, which occurred over several office visits. During surgical excision, the lesions were found to be smooth, encapsulated, and mobile, and they were excised without surgical complication. Histopathologic examination showed subcutaneous cysts lined by squamous epithelium with associated sebaceous glands (Figure 2A) and hair follicles in the cyst lumen (Figure 2B). These findings confirmed the diagnosis of multiple subcutaneous dermoid cysts.

Dermoid cysts are relatively uncommon, benign tumors consisting of tissue derived from ectodermal and mesodermal germ cell layers. Dermoid cysts may be distinguished from teratomas, which may contain tissues derived from all 3 germ cell layers and typically consist of types of tissues foreign to the site of origin, such as dental, thyroid, gastrointestinal, or neural tissue.^{1,2} The majority of dermoid cysts are congenitally developed along the lines of embryologic fusion due to an error in the division of the ectoderm and mesoderm^{3,4}; however, some dermoid cysts may be acquired from epidermal elements being traumatically implanted into the dermis.⁵

Our patient's presentation with multiple dermoid cysts was atypical, as dermoid cysts are almost always solitary tumors. A similar case was reported in a 41-year-old man who developed multiple dermoid cysts on the forehead over a 20-year period. This patient also was



FIGURE 1. Subcutaneous dermoid cysts. Multiple flesh-colored to yellow nodules without central punctae scattered over the central forehead.

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The authors report no conflict of interest.

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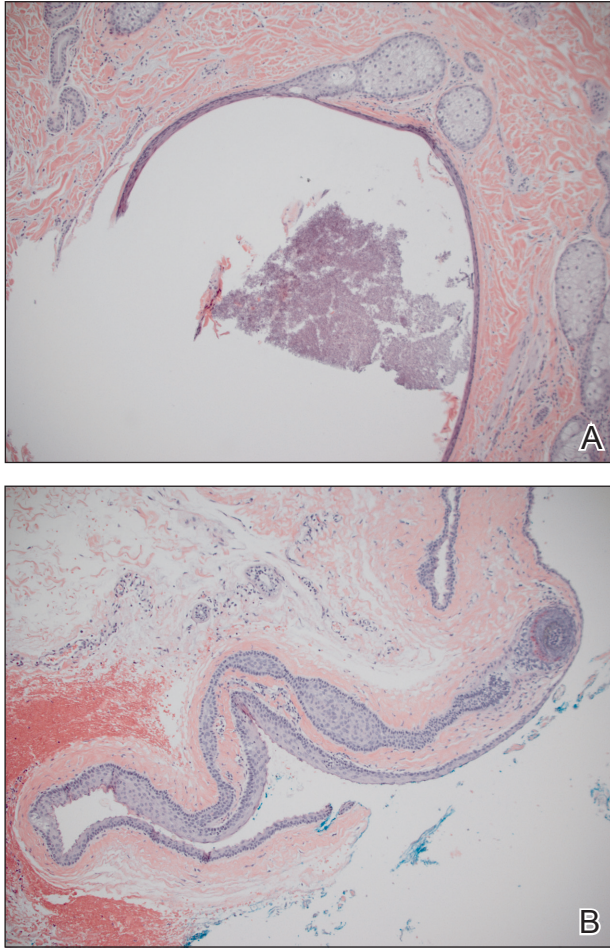


FIGURE 2. A, Histopathology showed subcutaneous dermoid cysts lined by squamous epithelium with associated sebaceous glands (H&E, original magnification $\times 4$). B, Accompanying hair follicles were seen in the cyst lumen (H&E, original magnification $\times 10$).

otherwise healthy, denied prior trauma to the forehead, and reported no family history of skin or gastrointestinal tract tumors.⁵

Another unusual feature in our case was the location of the dermoid cysts on the central forehead. The most common location for dermoid cysts is the lateral third of

the eyebrows (47%–70% of cases).^{1,4,6–10} These cysts occur because of sequestration of the surface ectoderm during fusion along the naso-optic groove.² Dermoid cysts also have been noted in other anatomical areas such as the scalp, nose, anterior neck, and trunk.⁶

Dermoid cysts tend to be small, round, smooth, and slowly growing until sudden enlargement prompts surgical evaluation.^{4,6} During surgical excision, they often are fixed to the underlying bone but also may be freely mobile, as in our patient.⁶ Histopathologic examination reveals a stratified squamous epithelium with associated adnexal structures such as sebaceous glands or hair follicles.¹ Smooth muscle fibers, prominent vascular stroma, small nerves, and collagen and elastic fibers also may be found within the lumen of dermoid cysts.²

In some cases, dermoid cysts may be invasive and carry the risk of bony erosion, intracranial extension, osteomyelitis, meningitis, or cerebral abscess. Imaging studies sometimes are needed to rule out intracranial or intraspinal extension, particularly for midline dermoid cysts.⁶ The standard of treatment for dermoid cysts is surgical excision and complete enucleation without disruption of the cyst wall; however, invasive dermoid cysts may require endoscopic excision, orbitotomy, or craniotomy.^{4,6}

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