Lateral congenital dermal sinus tract associated with an intradiploic dermoid tumor

Case report

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Congenital dermal sinus tracts can occur in a lateral position, far from the midline. That an intradiploic tumor could occur in combination with this anomaly has been suggested, but no case has been documented. This report describes such a patient.

Case Report

This 20-month-old Negro baby boy was brought to a pediatric clinic 2 days after being struck in the right temporal region by a billiard ball. He was not rendered unconscious, but had gradually developed a large soft mass in that area.

The child had been the product of a full-term, uncomplicated pregnancy. Shortly after birth the mother had noted a small "dimple" in the right temporal region; she did not seek medical advice and in the following months there had been no change in its character.

Examination. The physical examination was normal except for findings related to the presenting complaint. The soft tissue swelling in the right temporal region was firm and well circumscribed, erythematous, moderately tender, and measured 4 cm in its greatest diameter (Fig. 1). A small cutaneous defect was present over the dome of the lesion. It was hyperpigmented and fine hairs protruded from the orifice (Fig. 2); there was no drainage. A thorough neurological examination revealed no abnormality or midline malformation.

Routine laboratory tests and an electroencephalogram were normal. Skull films revealed a solitary radiolucent area located in

FIG. 1. Photograph on admission showing soft tissue swelling in the right temporal region.
the right frontotemporal region, measuring 2.0 cm in its greatest diameter (Fig. 3). The bony borders were smooth, regular, sharply circumscribed, and sclerotic in appearance with flaring of the edges. Both the inner and outer tables of the calvarium were involved; the continuity of the inner table appeared intact, however.

The preoperative diagnosis was the unusual combination of an intradiploic epidermoid tumor with a connecting congenital dermal sinus tract.

Operation. A curvilinear skin incision was made with a temporal base centered on the soft tissue mass. The skin flap was turned and the dermal sinus tract transected; the tract was then traced through the temporalis muscle, to a cystic mass cradled within the diploë. The stalk of the sinus tract could be seen tunneling under a bridge of bone to join the tumor. The mass was removed in toto, and the adjacent diploic channels were searched for any residual ectopic tissue. The dura was intact and there was no extradural mass. The cutaneous portion of the sinus tract was then excised and a primary closure accomplished.

Pathological Examination. Examination of the specimen demonstrated a dermoid tumor. The capsule was firm and grayish, consisting of four layers (beginning superficially): stratum durum, stratum granulosum, stratum fibrosum, and stratum cellulosum. The capsule contained the accessory structures of the dermis with hair follicles, hair, sebaceous glands, and sweat glands. Within the cyst was an accumulation of desquamation products, numerous hairs, and lipoids consisting primarily of cholesterol crystals.

Postoperative Course. Recovery was uncomplicated, and the patient was discharged 7 days after operation. He is currently doing well, 3 years since the surgery.

Discussion

Since von Remak postulated in 1854 that dermoid tumors arise from misplaced epithelial tissues, only modifications of this thesis have been made. These ectodermal rests apparently are due to incomplete separation of the surface epithelium from the neural ectoderm.

The diagnosis of intradiploic dermoid-epidermoid cyst can usually be made by the
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typical x-ray picture first described by King\textsuperscript{7} in 1939, with the radiographic characteristics already mentioned in this report.

The surgical removal should be performed following Cushing's\textsuperscript{3} recommendation, the turning of a large bone flap with the tumor mass confined to the central portion, then removing it from the bone. Should other pathology be present, it can be dealt with more efficaciously. Bucy\textsuperscript{1} modified this approach, stating that should no evidence indicate intracranial involvement, a simple skin incision with direct removal of the tumor was appropriate. However, when a dermal sinus tract is present, it is desirable not to include its orifice in the primary skin incision, but rather have it at a distance, as was the approach in the patient described here.

**Summary**

We have reported the case of an infant with a laterally placed congenital dermal sinus tract attached to an intradiploic dermoid tumor, thus establishing that sinus tracts can occur from the midline.

**References**


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