



NEW YORK REGIONAL SOCIETY OF PLASTIC SURGEONS

2018 RESIDENTS' NIGHT ABSTRACT

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Title: *Cranial Erosion Associated with Lateral Brow Dermoid Cysts in the Pediatric Population: A Retrospective Review and Proposed Management Algorithm*

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PURPOSE: Dermoid cysts are benign neoplasms of ectodermal and mesodermal origin, presenting in childhood as palpable, painless subcutaneous masses. Most dermoid cysts occur in association with the zygomaticofrontal suture at the lateral brow. While bony erosion and intracranial extension have been well described with midline dermoids, similar findings in association with lateral brow dermoid cysts are less established. The purpose of this study is to review one institution's experience with dermoid cysts and propose an algorithm for management.

METHODS: A retrospective review was conducted identifying patients with pathologically confirmed dermoid cysts of the head and neck after excision by a single surgeon between September 2013 and March 2015. Data collected included demographics, age at diagnosis and surgery, primary complaint, physical findings, associated symptoms, indications for preoperative imaging, imaging results, intraoperative findings, incidence of bony erosion or intracranial extension, recurrence, and complications. Based on the analyzed data, a proposed management algorithm was developed (Fig 1).

RESULTS: Thirty patients were included (53% female, 47% male). The mean age of mass recognition was 4.76 months, mean age at presentation was 16 months, and mean age at surgical excision was 19.2 months. The most common primary complaint was visibility and/or palpability of the mass (97%). Other complaints included orbital symptoms (17%), upper lid ptosis (13%) and lagophthalmos (3%). Most cysts were at the lateral brow (67%), the remainder being at the upper eyelid (10%), occipital scalp (7%), vertex scalp (7%), temporal scalp (3%), medial brow (3%), and glabella (3%). 73% of cysts were superficial on physical examination, suggesting absence of bony involvement, whereas 27% were deep and not freely mobile. 33% of patients had ultrasound imaging prior to presentation, and one of these patients also underwent CT. 43% of patients were sent for further preoperative imaging including ultrasound, CT, MRI, and MRA. Intraoperative findings correlated with physical exam findings in 80% of cases, with ultrasound findings 52% of cases, and with CT/MRI in 50% of cases. In the patients who underwent CT/MRI in addition

to US, findings were concordant in 83% of cases, with one MRI detecting bony erosion not initially seen on US. Nine patients with lateral brow dermoid cysts were found to have bony erosions involving the ectocranium and/or endocranium, one with full-thickness erosion requiring bone grafting. To date, there have been no recurrences or complications.

CONCLUSIONS: The incidence of bony involvement of lateral brow dermoid cysts and associated findings are poorly characterized. Currently, there exists no defined algorithmic approach for the evaluation, management, and treatment of these patients. The algorithm proposed by the authors will guide perioperative preparation and management of patients with lateral forehead and brow dermoid cysts.

Figure 1

