Branchial Cleft Cyst in an Infant

What's Your Diagnosis [1] | December 31, 2005
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HISTORY
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PHYSICAL EXAMINATION
A 4-mm cystic mass noted along the anterior border of the left sternocleidomastoid muscle. Mass is not red or tender, and is freely movable beneath the skin.
A branchial cleft cyst results from persistence of the cervical sinus of His.1,2

WHAT'S YOUR DIAGNOSIS?

CLINICAL MANIFESTATIONS
Branchial cleft anomalies may present as a cyst, sinus, fistula, or cartilaginous remnant.3 Approximately 80% of branchial cleft anomalies present as a cyst4 and about 95% are formed from the region of the second branchial arch.1,5 The remaining 5% arise from the regions of the first, third, or fourth arches.1,5
A branchial cleft cyst typically presents as a painless, mobile, and fluctuant mass located along the anterior border of the sternocleidomastoid muscle, usually just above the clavicle.4 Approximately 97% to 98% of the lesions are unilateral,6 and of these, 83% to 97% are on the left side—presumably consequent to asymmetrical vascular development.7
Although branchial cleft cysts are congenital and might be noted at birth, most are not detected until the first or second decade of life.8 Some are detected when they become more prominent in late childhood. Other cases become apparent during intercurrent upper respiratory tract infections or when the cyst becomes infected.3

DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS
The diagnosis is established by physical examination. Ultrasonography can help delineate the cystic nature of the lesion if the diagnosis is in doubt. The differential diagnosis includes cervical lymphadenopathy, fibrous dysplasia of the sternocleidomastoid muscle (fibromatosis coli), dermoid cyst, and cystic hygroma. A thyroglossal duct cyst is a midline structure, and should be easily differentiated.\(^9\)

**COMPLICATIONS**
Secondary bacterial infection is a possible complication. Squamous cell carcinoma is a rare complication reported in adulthood.\(^{10}\)

**HISTOPATHOLOGY**
A branchial cleft cyst is lined by squamous or columnar epithelium.\(^{11,12}\) The cyst usually contains either a clear fluid or a toothpaste-like material, and may contain cholesterol crystals.

**MANAGEMENT**
Complete surgical excision with careful attention to identifying deeper components is the treatment of choice.\(^3\) Aspiration, or incision and drainage, is associated with an increased risk of recurrence and of such complications as wound infection or hemorrhage.\(^7\) Secondary infection requires systemic antibiotic therapy.

**References:** REFERENCES:

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