

Benign Dermal Cylindroma in the External Auditory Canal—A Case Report

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A 67-year-old female was reviewed in clinic with a history of reduced hearing on the left side. On examination, a large mass occluding the left external auditory meatus was noted. A computed tomography scan was arranged to further characterize this lesion, which demonstrated a polypoid soft-tissue mass, filling the cartilaginous external auditory canal (EAC) and lateral portion of the bony external canal, measuring 14 mm in maximum transverse diameter. No underlying bony erosion was demonstrated, nor any abnormalities in the tympanic membrane, middle ear cleft, ossicles, or bony labyrinth (Figure 1). She was, therefore, listed for an examination under anesthetic and excision of the lesion.

Examination under anesthetic showed a large mass with a broad base, filling the entire lateral external auditory meatus. The remainder of the EAC and tympanic membrane was unremarkable. Excision of this mass was performed via a permeal approach and sent for histology.

Histology revealed features compatible with a benign dermal cylindroma. The tumor displayed multiple lobules in a jigsaw puzzle growth pattern and contained darker peripheral cells in a palisade arrangement (Figures 2 and 3). A deposit of hyaline was present in many lobules. No features of malignancy were seen, and margins were tumor free. The patient was later reviewed in outpatients following excision of the lesion and reported a significant improvement in her hearing and the sensation of aural fullness had been alleviated.

Benign dermal cylindroma is a rare benign tumor of the ceruminous glands and is extremely rare to see its presence in the ear.¹ These tumors are derived from the cartilaginous component of the EAC. This area contains hair follicles and is associated with ceruminous glands, from where these tumors arise.² The first case of benign dermal cylindroma was described in 1842 by Ancell³; however, the first cylindroma of the EAC was not described until 1963,⁴ after which only several cases have been published in almost 60 years.

When benign dermal cylindromata are seen in the EAC, they can lead to hearing loss and patients can complain of discomfort related to canal obstruction.^{2,5} Although squamous cell carcinoma is a more common diagnosis, benign dermal cylindromata is important to consider in the differential.^{2,6-8} The etiology of cylindromata is unclear; both eccrine and apocrine origins are discussed in the literature. Some postulate that it is possible that cylindromata arise from a common progenitor prior to differentiation, with dual apocrine and eccrine capabilities.^{8,9}

Ratio of females to males affected is 6-9:1¹⁰ and they are most commonly seen in middle-aged to elderly patients.² They most frequently occur as solitary lesions; however occasionally, they are associated with the autosomal dominant condition; Brooke-Spiegler syndrome,¹⁰ where multiple lesions over the scalp, may be evident.

Typical histological appearance of benign dermal cylindromata includes the presence of basophilic cells, hyaline material, and cystic ductal structures.³ Their appearance is described as well-defined nests of cells, consisting of small, dark basophilic cells at the periphery and central pale cells. The cell nests tend to be surrounded by a periodic acid-Schiff-positive

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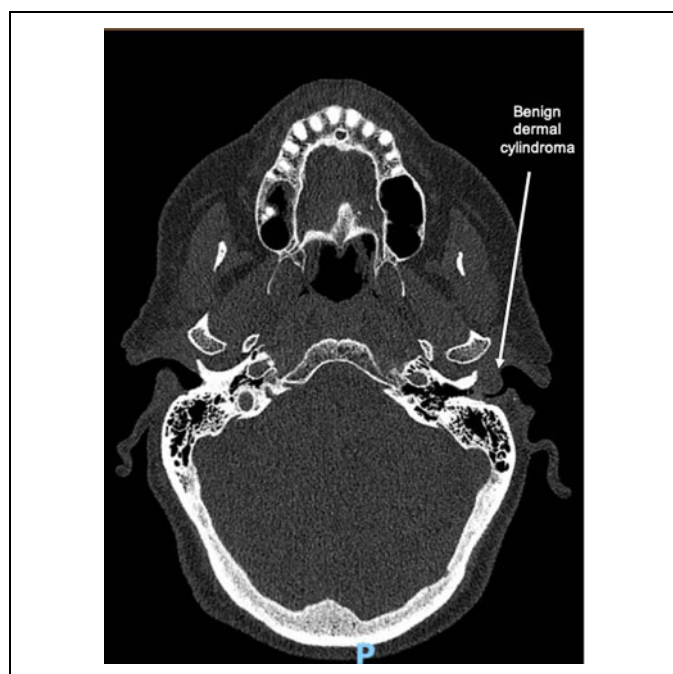


Figure 1. Axial CT showing benign dermal cylindroma of the left EAC. EAC indicates external auditory canal; CT, computed tomography.

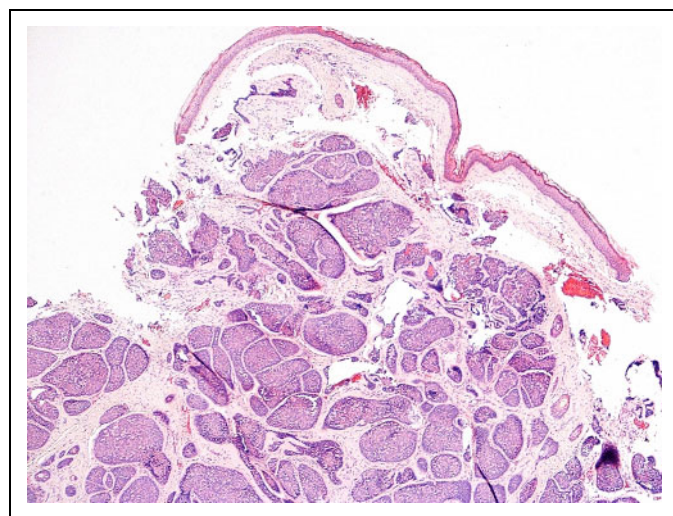


Figure 2. $\times 10$ magnification image of benign dermal cylindroma showing jigsaw puzzle growth pattern.

hyaline material.² When tumors begin to display features of malignancy, cell nests start to disorganize and there is marked loss of the hyaline material.

Largely, these tumors do remain benign; however, malignant transformation to adenoid cystic carcinoma has been reported.¹¹⁻¹⁴ Signs of this include bleeding, change in size/color, and ulceration.¹⁰ Treatment for suspected benign dermal cylindroma is by complete excision, as incomplete margins are associated with recurrence in over 40% of cases.² Follow-up is, therefore, recommended to monitor for this, in addition to

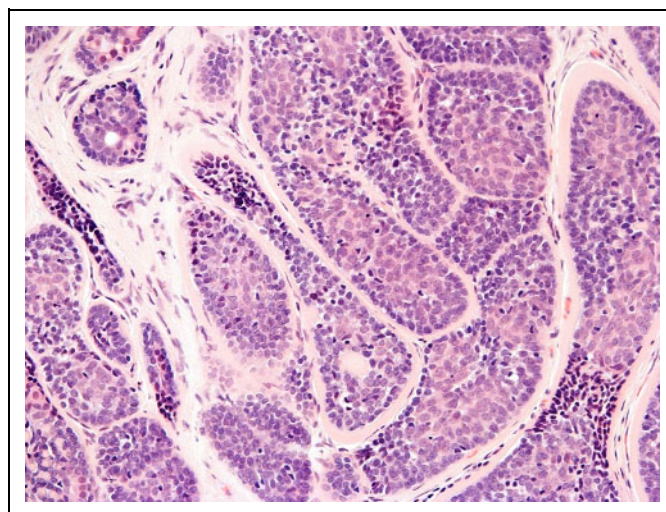


Figure 3. $\times 20$ magnification image of benign dermal cylindroma showing palisade arrangement of dark peripheral cells around central paler cells.

evaluating whether any new lesions are present. As the patient discussed did not demonstrate any signs of malignancy, adjuvant treatment was not indicated and regular follow-up was deemed appropriate.

Authors' Note

The authors confirm that written informed patient consent was obtained for patient information and images to be published.

Declaration of Conflicting Interests

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