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CASE REPORT

Intraparotid pseudoglandular schwannoma

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A unique intraparotid location of a rare pseudoglandular schwannoma is described. Although the diagnosis of schwannoma could readily be substantiated, accurate subtyping was initially mislabeled. The pitfall was in failing to acknowledge the presence of multiple well-formed gland-like structures, which is instantly thought to be cystically dilated salivary ducts. Immunohistochemically, epithelial-appearing cells lining the duct-like spaces proved to be schwannian in nature. Interpretation of an immediately recognizable gland-like architecture is more problematic when a pseudoglandular variant originates from a nerve coursing through the gland, as here.
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Case report

The patient was a 27-year-old man with a painless, $3.5 \times 2.0 \times 2.0$ cm^3 mass in the left parotid gland which had been present for 10 months. During the surgery, small branches of the facial nerve were splayed out over the thick capsule of a tumor.

Microscopically, solid-cystic schwannoma was completely encapsulated (Fig. 1a). Scattered throughout the cellular Antoni A tissue were variably sized cystic spaces of varied morphology. Large branching gland-like structures were lined by multilayered cuboidal to flat cells with the deceptive appearance of stratified squamous epithelium. Most of the microcysts contained eosinophilic proteinaceous fluid, bearing remarkable similarities to dilated salivary ducts (Fig. 1b). Smaller duct-like spaces lined by elongated cells resembling pseudostratified columnar epithelium were also conspicuous (Fig. 1c). In closer inspection, the compact epithelial-like lining directly merged with the underlying schwannomatous proliferation (Fig. 1d, e). There were occasional foci showing a gradual transition from degenerative Verocay bodies to pseudoglands (Fig. 2a, b). Within the lesion were numerous hyalinized vessels, foam cell aggregates and hemosiderin deposits (Fig. 2c). Classical myxoid Antoni B area was discernible. Virtually all populating spindled cells stained intensely with S-100 protein [polyclonal; Dakopatts, Carpinteria, CA; 1:400 (Fig. 2d)]. Pseudoepithelial lining was negative for cytokeratin (AE/1AE3; Dakopatts; 1:200) and epithelial membrane antigen (E29; Dakopatts; 1:100), but strongly positive for S-100 protein (Fig. 2d, e).

Comments

Pseudoglandular schwannoma is distinctly unusual, with only a few cases in the literature (1–3). Very recently, another group has reported a series of 16 schwannomas which contained some pseudoglandular elements (4). There has been no prior report describing parotid involvement. This is a still poorly recognized variant which at first glance, may be misconstrued as a glandular schwannoma (5, 6). The pseudoepithelial lining reportedly exhibited no reactivity for cytokeratin and epithelial membrane antigen in the presence of schwann cell-related markers (1–4), a finding confirmed by the present study. It must be noted, however, the coexistence of a minor pseudoglandular area with true glands in a case of glandular schwannoma (6). Although glandular subtype itself is an imprecise entity open to individually subjective criteria (schwannoma with heterologous glands or with entrapment of native glands), a transition pathway from pseudoglands to mixed and finally true glands is debatably postulated for these tumors (1, 2, 6).

Intratumoral cysts in a common-type schwannoma incontrovertibly develop in hemorrhagic foci or myxoid areas of Antoni B tissue (4) and thus far, never display gland-like appearances. In contrast, irregularly branching cystic spaces in a pseudoglandular variant may originate from central breakdown of Verocay bodies (2). This idea seems circumstantially quite logical and is better explained by the fact that all reported lesions,

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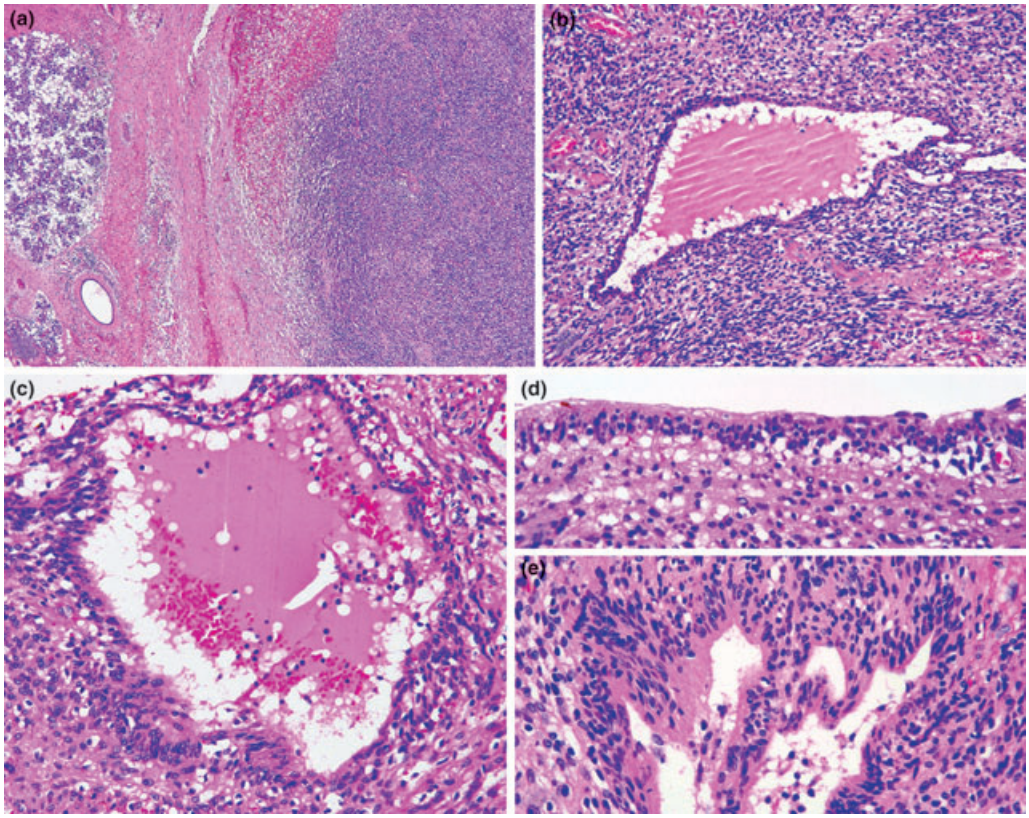

Figure 1 (a) Intraparotid schwannoma enveloped by a thick capsule (H & E, ×40). Pseudogland lined by (b) cuboidal with eosinophilic secretion in the space (H & E, ×100) or (c) columnar cells, with eosinophilic secretion in the space (H & E, ×200). Pseudoepithelial lining of multilayered squamoid (d) or columnar (e) type (H & E, ×200).

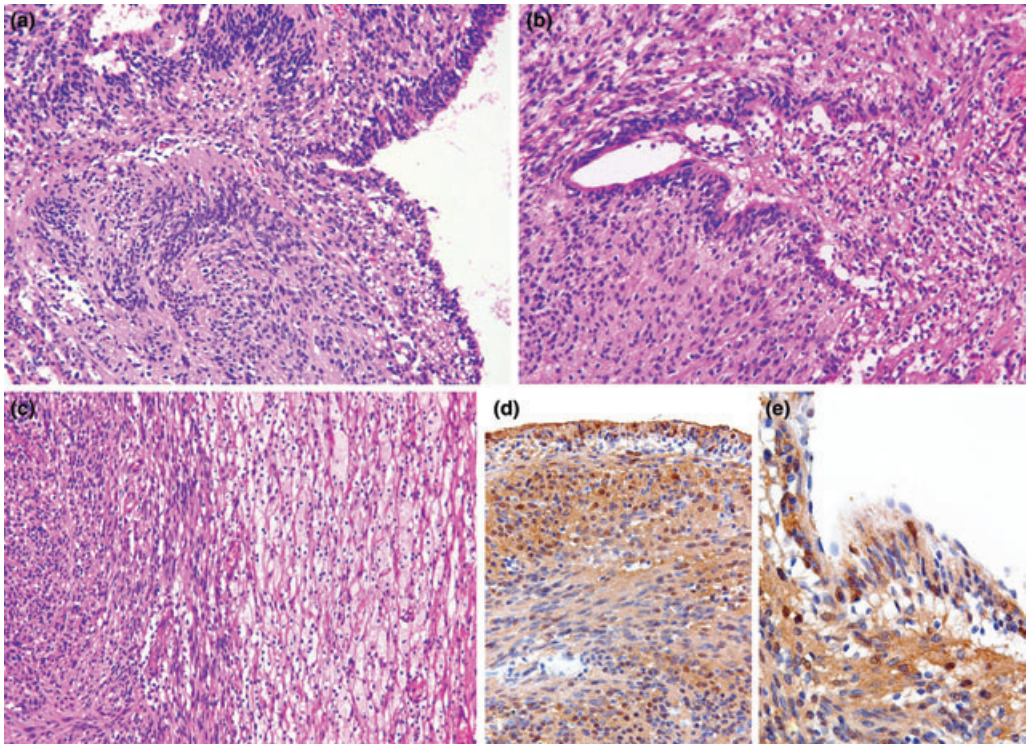

Figure 2 (a, b) Gradual transition between Verocay body and pseudogland (H & E, ×100). (c) Collections of foam cells (H & E, ×100). Impressive immunopositivity for S-100 protein in stratified (d) squamous-like lining cells (ABC method, ×200) or (e) columnar-like lining cells (ABC method, ×400).

including ours, consisted of cellular Antoni A tissue (1–3). Foam cell collection and hemosiderin deposition in the present tumor further support the degenerative origin of pseudoglands (4). Whatever the pathogenesis, familiarity with the unique histologic patterns may prove helpful in subclassifying many different, sometimes overlapped schwannoma variants.

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