The term hybrid cyst was originally coined to describe combination follicular cysts with both infundibular and trichilemal zones that are separated by a sharp transition. The concept has since expanded to include any combination of differentiation that represents the various levels of the pilosebaceous unit. Andersen et al. reported on the case of a hybrid cyst composed of an epidermoid inclusion cyst and an apocrine hidrocystoma. Glomus coccygeum is a glomus body located just ventral to the tip of the coccyx, and this is rarely encountered, but this is a nonpathologic structure that may pose diagnostic problems. When they are found in the distal extremities, glomus bodies do not represent a diagnostic problem, but glomus bodies in the pericoccygeal region may cause significant diagnostic confusion. We report here on a rare case of a hybrid cyst occurring in the pericoccygeal subcutaneous tissue and it coexisted with a glomus coccygeum.

CASE REPORT

A 36-year-old female patient with a mass in the coccygeal region underwent surgical removal of the mass, and this revealed a hybrid cyst in coexistence with a glomus coccygeum. This unusual cutaneous cyst had an epithelial lining composed of keratinizing, stratified squamous epithelium with an intact granular layer immediately adjacent to apocrine cells, and the apocrine cells showed the characteristic features of “decapitation secretion”. The glomus coccygeum, which is a minor finding in specimens from the sacral area and it may represent a diagnostic challenge to the unaware observer, was incidentally identified in the dermis. The glomus coccygeum was located beneath the epithelial transition area of the hybrid cyst. Immunohistochemical analysis revealed that the cytoplasm of the epithelioid glomus cells was positive for smooth muscle actin, and these epithelioid glomus cells were arranged in concentric layers around blood vessels, and the cellular stroma surrounding the glomus bodies were positive for S-100 protein.

A 36-year-old previously healthy female patient presented with a complaint of a mass in the coccygeal region. She had no specific discomfort and no remarkable past history or family history of cutaneous disorder. Physical examination revealed a well-demarcated, erythematous, dome-shaped nodule that measured 3 cm at the greatest dimension. Computed tomography showed a thin-walled hypoechoic lesion inferior to the coccyx. A clinical diagnosis of an epidermal cyst was made and the lesion was completely resected under local anesthesia. Macroscopically, there was a yellow/tan cystic mass in the dermis, and the mass measured 3 × 2.5 × 2 cm. The cyst was filled with milky white granular material. Rupture of the cyst or the release of cystic contents into the dermis was not present.

The entire specimen was submitted for histologic examination by hematoxylin and eosin staining. Selective sections were stained with periodic-acid-Schiff (PAS) without diastase digestion. Immunohistochemical studies were also performed on the formalin-fixed, paraffin-embedded tissue with employing the polymer method. We used monoclonal mouse anti-α-smooth muscle actin (SMA) antibody (1:4,000; clone 1A4, code no. M0851; DAKO, Glostrup, Denmark) and polyclonal rabbit antihuman S-100 protein antibody (1:8,000; code no. Z0311; DAKO). Microscopically, the scanning view revealed a unilocular cystic lesion lined by keratinized squamous epithelium and non-keratinized stratum.
columnar epithelium (Fig. 1). The cystic wall was surrounded by fibrous connective tissue. An abrupt transition occurred from the squamous epithelial areas, which showed an evident granular layer and loosely laminated horny material, changing to a glandular epithelial area showing single or pseudostratified columnar cells of variable height with an apocrine-type secretion, which is so-called “decapitation secretion” (Fig. 2). PAS-positive granules were found in the secretory cells (Fig. 3). These observations indicated the diagnosis of a hybrid cyst composed of squamous and apocrine epithelium.

The microscopic examination also revealed a sharply circumscribed complex structure of glomus bodies in the reticular der-

![Figure 1](image1.png)

**Fig. 1.** Scanning view reveals a unilocular cystic lesion lined by keratinized squamous and non-keratinized columnar (arrowheads) epithelium. There are multiple clustered glomus bodies (arrows) beneath the transition area.

![Figure 2](image2.png)

**Fig. 2.** There is an abrupt transition between the stratified squamous epithelium with laminated horny material and the pseudostratified columnar epithelium showing “decapitation secretion”. Nests of glomus cells (arrow) are identified beneath the transition area.

![Figure 3](image3.png)

**Fig. 3.** PAS-positive intracytoplasmic granules are identified in the apocrine epithelium and luminal secretion.

![Figure 4](image4.png)

**Fig. 4.** Immunohistochemical staining reveals smooth muscle actin-positive glomus cells (polymer method).
Hybrid Cyst Coexisting with Glomus Coccygeum

The hybrid cyst was first described by McGavran et al., in 1966 as a cystic tumor that was a combination of infundibular and trichilemmal cysts. Requena et al. later reported that a hybrid cyst could contain any cyst arising from the pilosebaceous unit. In fact, it has since been argued that the concept of a hybrid cyst should not be restricted to those cyst composed of only epidermoid and trichilemmal components. The reasoning lies in the idea that any of the various parts of a pilosebaceous unit can contribute to the formation of a cyst in any combination. The follicular hybrid cysts include a hybrid infundibular and trichilemmal cyst, a pilomatrixoma and infundibular cyst, a pilomatrixoma and trichilemmal cyst, an eruptive vellus hair cyst and steato-cystoma and a combination of infundibular cyst and apocrine hidrocystoma. In our case, the hybrid cyst was composed of squamous and apocrine epithelium and it arose within the pericoccygeal subcutaneous tissue. Andersen et al. considered the possibilities of collision, fusion or junctional histogenesis, but the pathogenesis of the hybrid cyst is still uncertain.

We found the glomus coccygeum in the dermis located beneath the transition area of the hybrid cyst. The glomus body is a vestigial structure related to the canals of Sucquet-Hoyer, which is a specialized form of arteriovenous anastomosis. Our immunohistochemical findings were consistent with those of other studies and they indicated that glomus coccygeum cells have the immunotype of modified smooth muscle.

In conclusion, we present here the uncommon combination of a hybrid cyst coexisting with a glomus coccygeum. Our Medline and KoreaMed searches revealed no published cases of a hybrid cyst coexisting with an incidentally discovered glomus coccygeum. Our case was unique due to the hybrid cyst's origin in the pericoccygeal region and its association with a glomus coccygeum. However, a link between the hybrid cyst and glomus coccygeum was uncertain in our case. Further studies are needed to confirm the apocrine histogenesis of these unusual cysts.

REFERENCES