

Glomangiomyoma on the Face

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We report a rare case of glomangiomyoma in a 25-year-old man who had an asymptomatic, 1.5×1.5cm sized, round, skin-colored, soft mass on the right cheek. Histopathologically, the lesion was consistent with glomangiomyoma which showed irregularly dilated vessels lined by endothelial cells and several outer layers of glomus cells, and smooth muscles distributed within the tumor. The tumor cells were characterized immunohistochemically by the presence of smooth muscle actin, muscle specific actin, and vimentin. To our knowledge, this is the first case report of glomangiomyoma on the facial location in the Korean literature.

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Key Words : Face, Glomangiomyoma, Glomus tumor

Glomus tumor is a benign neoplasm that is derived from modified smooth muscle cells known as glomus cells. These tumors are commonly found beneath the fingernails, but also occur in many other locations¹ and rarely in visceral organs²⁻⁶. They may be present at birth⁷⁻¹⁰ or may also appear multiple¹¹⁻¹³.

Glomangiomyoma is the least frequent histopathologic type of the glomus tumor, and the case on the face appears never to have been reported in the Korean literature. Therefore, we present a case of a 25-year-old male with glomangiomyoma on the right cheek.

CASE REPORT

A 25-year-old man was seen in March

1999 for evaluation of an asymptomatic mass on his right cheek which he had for several years. Examination revealed a round, skin-colored, 1.5×1.5cm sized, soft nodule which was not painful (Fig. 1). There was no abnormalities other than the facial lesion. The family history was unremarkable.

Histopathologically, the tumor was not encapsulated, and showed irregularly dilated vessels lined by endothelial cells and several outer layers of glomus cells (Fig. 2). At high power, the tumor was characteristically composed of sheets of uniform cells with pale or eosinophilic cytoplasm, well defined cell margins, and round or ovoid nuclei (Fig. 3). Mitoses and necroses were absent and the stroma was focally edematous. Smooth muscles and small blood vessels were focally distributed in the tumor (Fig. 4).

Immunohistochemistry revealed the glomus cells to be positive for smooth muscle actin, muscle specific actin, and vimentin, and negative for desmin. Our patient was successfully treated with complete excision and has no evidence of aggressive clinical behavior or recurrence after 23 months of follow-up.

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Fig. 1. A round, skin-colored, 1.5×1.5cm sized, soft nodule was evident on the right cheek.

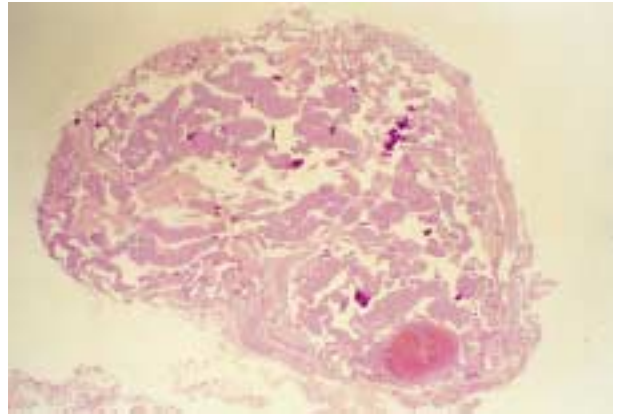


Fig. 2. The tumor was not encapsulated, and showed irregularly dilated vessels lined by endothelial cells and several outer layers of glomus cells(H&E stain, ×10).

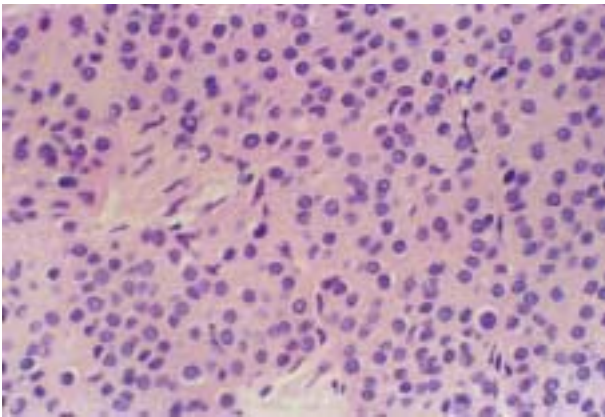


Fig. 3. The tumor was characteristically composed of sheets of uniform cells with pale or eosinophilic cytoplasm, well defined cell margins, and round or ovoid nuclei(H&E stain, ×400).

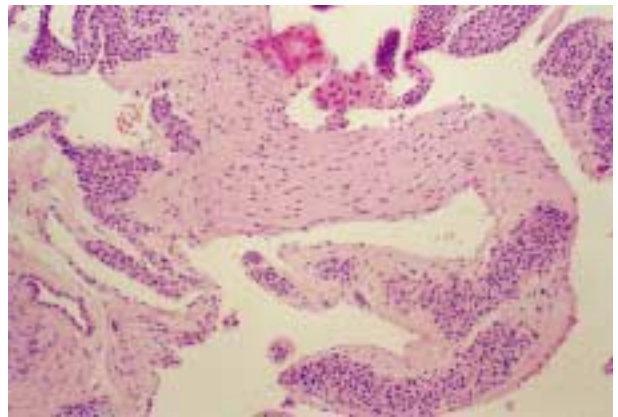


Fig. 4. Smooth muscles and small blood vessels were focally distributed in the tumor(H&E stain, ×100).

DISCUSSION

Glomus tumors show varying proportions of glomus cells, blood vessels and smooth muscles. According to the relative proportions, they have been divided into three subtypes: solid glomus tumor, glomangioma and glomangiomyoma. Solid glomus tumor is a well-circumscribed or encapsulated dermal tumor which may extend into the subcutis. It is composed of solid aggregates of glomus cells surrounding inconspicuous vessels. Glomus cells are rounded, regular cells with

eosinophilic cytoplasm and darkly staining round to oval nuclei. The uniformity of the cells and their lack of pleomorphism are features of these tumors. In contrast, glomangiomas have more prominent vessels and less conspicuous glomus cells than the solid glomus tumor. Glomangiomas are poorly circumscribed and unencapsulated, and consist of irregular ectatic vascular channels irregularly surrounded by small numbers of glomus cells. Solid glomus tumor and glomangioma do not show smooth muscle cells ordinarily¹⁴.

Glomangiomyomas are the least frequent type, which represent about 10% of all glomus tumors but nearly 20% of the lesions in

cases of multiple tumors^{14,15}. Their overall architectural pattern may resemble solid glomus tumor or glomangioma, but there is a gradual transition from glomus cells to elongated mature smooth muscle cells. This transition is most obvious in the region surrounding large vessels¹⁴. Glomangiomyoma occurs usually on the sites where glomus tumor commonly involved including extremities^{9,14,15} but rarely on the nasal cavity¹⁶ or periurethral area¹⁷. To our knowledge, our case is the first report of glomangiomyoma on the cheek in the literature search (MEDLINE database from January 1965 to the present). Glomus tumors closely resemble the modified smooth muscle cells of a segment of a specialized arteriovenous anastomoses (Sucquet-Hoyer canal) that is involved in the regulation of temperature, the glomus body. Glomus bodies are usually found in acral skin, particularly on the hands. However, many glomus tumors arise from sites where glomus bodies are not known to exist. Therefore it is likely that some glomus tumors arise from differentiation of pluripotential mesenchymal cells or ordinary smooth muscle cells¹⁸. In 1990 Daugaard et al.¹⁹ reported an immunohistochemical study with 20 glomus tumors, in which glomus tumor cells were negative for neuron-specific enolase, glial fibrillar acidic protein, S-100 protein, chromogranin, and ulex europaeus lectin type 1, and positive for actin, myosin, and vimentin. Four tumors exhibited an equivocal reaction for desmin and the rest a negative reaction. Because these findings showed the glomus cell to be related to smooth muscle cells and pericytes, they suggested that the majority of glomus tumors were probably hamartomas, but a few might be true neoplasms.

Treatment options include excision, electrosurgery, sclerotherapy, electron-beam irradiation, and laser therapy. Complete surgical excision is the treatment of the choice, but carbon dioxide laser therapy has been reported to eradicate symptoms and improve the cosmetic appearance of tumor²⁰. Our patient was successfully treated with complete excision and has no evidence of aggressive

clinical behavior or recurrence after 23 months of follow-up. In conclusion, glomangiomyoma is the least frequent histopathologic type of the glomus tumor, and the case on the face appears never to have been reported in the Korean literature. Therefore, we present a case of a 25-year-old male with glomangiomyoma on the right cheek. Finally, the dermatologist must be aware of this variant of glomus tumour to avoid misdiagnosis and unnecessary additional treatments.

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