Paraganglioma of the Oropharynx

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Abstract Paraganglioma is a rare tumor in head and neck region. A 35 years male presented with huge swelling of tonsillar region occupying a large portion of oropharynx. Tumor had been dissected out transorally. HPE showed extra-adrenal paraganglioma. It is being reported because of its rare clinical presentation and unusual surgical approach.

Keywords Paraganglioma · Oropharyngeal tumor · Extra-adrenal paraganglioma

Case Report

H. S. 35 years male presented with progressive dysphagia since 1½ years and difficulty in respiration since last 6 months.

On Exam

General survey was normal. Voice was muffled. No neck node was palpable. Examination of oral cavity and oropharynx showed large mass at right tonsillar region occupying major area of oropharynx (Fig. 1); Tonsil could not be identified properly. Mucosa over the mass was intact but congested. It was firm, non tender and not fixed to deeper structures. I/L could not be done properly. CT scan showed

a huge mass at medial part of right para-pharyngeal space pushing lateral pharyngeal wall so much that more than 75% of oropharyngeal cavity occupied by the mass. Carotid arteries were not involved (Fig. 2).

Transoral FNAC done and it was inconclusive. It was planned to dissect out the mass transorally. Incision given at anterior boarder of mass on anterior pillar of right tonsil and dissection done like tonsillectomy. The mass was dissected out as a single piece. It was encapsulated firm, yellowish brown, $4 \times 3 \times 2.5$ cm in size. HPE showed ovoid tumor cells disposed in small distinct clusters (zellballen) or cell cords separated by prominent fibrovascular stroma and having abundant pink granular cytoplasm and round to ovoid central nuclei; these features consistent with paraganglioma (Figs. 3 and 4). Post operative period was uneventful. No neurodeficit was noted. 3 years follow up showed no recurrence.

Discussion

Paragangliomas are tumors derived from the multicentric extra adrenal paraganglionic tissue which is found symmetrically and segmentally along blood vessels and nerves of the embryonic arches and along the peripheral branches of autonomic nervous system [1] Paragangliomas form a prognostically intermediate group of neoplasm [2].

Paraganglioma in head and neck region mainly arise from paraganglionic tissue within the perineurium of the vagus nerve at its ganglion nodosum, i.e., just below skull base. In large tumors there may be small extension through the foramen jugulare. Usually there is swelling in antero-lateral aspect of neck with medial displacement of peritonsillar structures. This tumour may also arise from paraganglionic tissue around Jugular bulb. Here, mass

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Fig. 1 Clinical photograph showing huge mass at right tonsillar region

Fig. 2 CT scan of neck showing a huge mass in right parapharyngeal space

Fig. 3 Photomicrograph showing typical “Zellballen” appearance (H&E, $\times 100$)

Fig. 4 Cells show uniform nuclei with moderate amount of granular eosinophilic cytoplasm (H&E, $\times 400$)

above and below the skull base are usually, similar in volume. In both cases there are anterior displacement of carotid. In carotid body tumor there is splaying of carotid bifurcation.

Here in the present case the tumor was present medial to the carotid artery, without any displacement of carotid artery. There was no neck swelling, but lateral pharyngeal wall was pushed medially. Para-pharyngeal tumor is usually dissected out through different type of neck incision; e.g., submandibular (transcervical) approach, transparotid etc. In non parotid para-pharyngeal tumor, submandibular approach found ideal for adequate visualization, control of bleeding and identification of major vessels and nerve [3].

CT scan findings is useful in determining the need for an osteotomy. Median displacement of internal carotid artery, involvement of retrostyloid or retropharyngeal compartment and most importantly erosion of skull base are the indications for mandibulotomy [4]. In the present case as it was presented mainly medially and the mass was not related with carotid artery we had planned to remove it transorally. Ultimately it was removed transorally without any complication. Patient is still asymptomatic even after 3 years of follow up.

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