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Extended Abstract
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Pathology Summit 2018: Clinico-pathological profile of jaw and Sino nasal masses: An experience in tertiary care hospital - Fariha Kauser - Civil Hospital Karachi, Pakistan.

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Background:

To study the incidence, presentation and histopathological characteristics of the jaw and Sino nasal lesions in surgical pathology material.

Methods: nasal jaw and Sino tumors biopsied or surgically excised over a five-year period diagnosed at B.P. Koirala Institute of Health Sciences and Karachi Civil Hospital. The histopathological records of these cases were analyzed to see the prevalence, the common site, the age of presentation and the correlation between the clinical and histopathological diagnosis.

Results: In five years, 135 cases of nasal jaw and Sino tumors were diagnosed, which represents 0.18% of all surgical samples received. Epithelial tumors outnumbered non-epithelial tumors. Malignant tumors have been observed mainly in men. Benign lesions included a scaly papilloma and an inverted papilloma and angiofibroma. Squamous cell carcinoma was the most common among malignant tumors. The second most malignant tumor was adenoid cystic carcinoma. Other rare types of malignancies included variants of squamous cell carcinoma, malignant melanoma of the nose, glioma and neurofibroma and neurofibromatosis. The most common site was the nasal cavity, followed by the paranasal sinuses and the external nose, the infraorbital region and the jaw. The age varied from 12 to 70 years with a predominance among men.

Ameloblastomas are odontogenic tumors derived from the epithelium that generally originate in the jaw bones, mainly involving the mandible and less often the maxilla. The presence of ameloblastomas in the Sino nasal region is generally secondary to an extension of a tumor of gnathic origin in this area.

Nasal ameloblastomas are rare tumors of the Sino nasal tract that originate in the Sino nasal epithelium. An extensive review found that ameloblastomas made up approximately 0.11% (n = 19,658) of all nasal sinus tumors. Unlike their gnathic counterpart, naso-sinus ameloblastomas show a predilection for the male sex of 3.8: 1. In addition, these neoplasms appear about 15 to 25 years later than those occurring in the jaw, at an average age overall of 59.7 against 35 to 45 years respectively. The clinical presentation usually includes nasal obstruction, sinusitis and / or epistaxis. Less common signs and symptoms include swelling of the face, headache and tears.

No nasal ameloblastomas also differ radiologically from their jaw counterparts. Otherwise, nasal lesions are most often described as solid, radio-opaque lesions that fill the nasal cavity or sinus. On the other hand, ameloblastomas in the gnathic zones generally appear in the form of radio-transparent lesions in “honeycomb” or “in the form of bubbles”. Basically, these primo-nasal lesions are mainly solid, gray-white and rubbery to grainy.

Surgical resection of primary nasal sinus ameloblastomas is the treatment of choice. Originally, radical surgery was performed on most patients since the success of the treatment was strongly correlated with complete surgical removal of the lesion. Conservative surgery or functional endoscopic sinus surgery (FESS) can be attempted in an appropriate clinical setting, however complete removal of the tumor is the most important factor in determining the appropriate procedure. The overall prognosis for nasal sinus ameloblastomas is quite good, with local recurrence being the most common long-term sequelae. Recurrence tends to occur within 1 to 2 years after surgery, but cases have been reported, with recurrence occurring several years after surgery. It should be noted that no malignant transformation, metastasis or death attributable to nasal sinus ameloblastomas has been reported. However, like previous studies, we did not find any source of odontogenic cells in the submucosa that could represent the source of the development of these tumors.

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As we noted earlier, most gnathic ameloblastomas appear in patients 35 to 45 years of age. On the other hand, naso-sinus ameloblastomas have a predilection for older men, as in our case. Some studies explain that a longer period of time is required for nasal sinus ameloblastomas to reach a sufficiently large size and exhibit certain symptoms. Since ameloblastomas have been shown to be a locally aggressive tumor, a delay of 30 years in presenting symptoms does not seem to be the reason in this case.

Differential diagnosis can remain a challenge in small biopsies if the tissue fragments obtained for diagnosis are superficial and the typical histology of the tumor is not well represented. Computed tomography can help with diagnosis, but MRI seems to be a more useful imaging technique, which demonstrates heterogeneity of the signal, due to its multicystic composition and its irregular contrast capture, which was not available in this case. According to conventional and advanced radiographic views, the anthral mucocele and the benign aggressive humoral lesion were considered. Other benign lesions like inverted papilloma, as well as ameloblastomas can mimic malignancy through bone erosion. Although malignant lesions such as SCC are in the differential diagnosis of tumor lesions in the maxillary sinus, there was no evidence of destruction to confirm this. In addition, a significant expansion of the lesion reduced the risk of carcinoma.

Surgery, radiation therapy and chemotherapy can be used to treat cancer of the nasal cavity or sinuses. If the tumor is small, it can often be removed using an endoscopic, minimally invasive approach. If a tumor has spread to the cheek, eye, brain, nerves or other key structures of the skull, an open surgical approach is often required. The surgeons at Cedars-Sinai Sinus Center are experts in the open endoscopic and surgical treatment of these cancers.

Although many cancers of the sinuses or nose have no symptoms, some prolonged symptoms may indicate cancer, including: persistent nasal congestion, especially on one side. Pain in the forehead, cheeks, nose, or around the eyes or ears. Post-nasal drip at the back of the throat.

A paranasal sinus tumor is a cancer that has developed inside your sinuses, the open spaces behind your nose. This tumor can start in the cells of the membranes, bones or nerves that line the area. You may not know or even suspect that a tumor is growing until it spreads.

Histological examination revealed ameloblastic islets with columnar cells on the periphery. Columnar cells have demonstrated hyperchromatic nuclei and reverse polarity with sub nuclear vacuoles. In the center of these islands were loosely arranged angulated cells, resembling a star-shaped reticulum. Many ameloblastic islands have shown central scaly metaplasia. The patient was diagnosed with nasal sinus ameloblastomas and referred for definitive treatment.

Conclusion: the most common site for benign tumors is the nasal cavity. Tumors of the external nose are rare. All masses of the jaw and nose should be subjected to histopathological examination for correct diagnosis due to unusual presentations.

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