

Sinonasal Carcinoma – A Report of Two Cases

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ABSTRACT

Sinonasal carcinomas are rare and account for 3% of all malignant tumours of head and neck. Squamous cell carcinoma is the commonest histological variant. We present a case of sinonasal squamous cell carcinoma in a 52-years-male and another rare case of intestinal type sinonasal adenocarcinoma in 50-years-male.

CASE REPORTS

Case 1: A 52-year-male patient presented with growth in right nasal cavity and foul smelling discharge in right nasal cavity since two months with recent one episode of bleeding from nose. Examination showed a polypoidal mass in right nostril, insensitive, does not bleed on touch and had mucoid appearance. No paranasal sinus tenderness was made out. Posterior rhinoscopy did not show any mass. Relevant haematological and biochemical investigations were within normal limits. X-ray paranasal sinus showed radiolucent area in nasal cavity. Paranasal sinuses were normal. A provisional clinical diagnosis of Inverted papilloma was made. Patient underwent intranasal polypectomy and the specimen was subjected for histopathological examination. Grossly specimen consisted of multiple irregular gray white to gray brown soft-tissue bits largest measuring 4x2x0.5 cms and smallest measuring 0.5x0.5 cm. Cut surface was gray white to gray brown. Microscopy showed polyps with neoplastic squamous cells arranged in nests, sheets and cords, cells having increased nuclear:cytoplasmic ratio, pleomorphic nuclei, dyskeratosis and squamous pearls [Table/Fig-1]. Abnormal mitosis and necrosis were seen. Adjacent bits showed features of inflammatory polyp. A final diagnosis of Sinonasal Carcinoma, Squamoid variant was made. The patient was subjected for radiotherapy post-operatively. Follow-up was uneventful until one year. Later patient was lost for follow-up.

Case 2: A 50-year-male patient presented with right nasal block since six months, mass in right nose since two months and frontal headache since two months. On examination a polypoidal mass in right nostril was seen, bleeds on touch [Table/Fig-2]. Ethmoid and paranasal sinus tenderness was present. Posterior rhinoscopy showed bloody discharge. Relevant haematological, biochemical investigations and chest X-ray were within normal limits. X-ray

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Paranasal sinus showed radiolucent areas in right ethmoid, frontal and maxillary sinuses. CT scan showed a mass in right maxillary, ethmoid, sphenoid, frontal and entire nasal cavity. Bony defects were seen in medial orbital and cribriform plate. A provisional clinical diagnosis of Rhinosporidiosis was made and transmural biopsy was done. Grossly specimen consisted of single gray white soft-tissue bit measuring 1x1x0.5 cm. Histopathology showed tubulopapillary structure lined by columnar cells with stratification having apical mucin and basally placed large pleomorphic hyperchromatic nuclei [Table/Fig-3]. Mucoid areas were seen. A final diagnosis of Intestinal Type Sinonasal Adenocarcinoma (ITAC) with local metastasis was made. Patient refused for any treatment, got discharged against medical advice and lost for follow-up.

DISCUSSION

Sinonasal malignant tumour is an unusual tumour and account for 3% of all malignant tumours of head and neck [1,2]. Sinonasal carcinomas occur primarily in men aged 55–60 years [3]. Occupational exposure to nickel, wood and leather dust is reported to be the predisposing factors. Wood workers present usually with adenocarcinoma [2,3]. The time between the first occupational exposure to wood dust and the development of adenocarcinoma of the sinonasal tract averages 40 years [3]. Epstein-Barr virus and Human papilloma virus association also has been reported. EBV usually give rise to squamous cell carcinoma or anaplastic carcinoma [2,4,5]. Intranasal carcinomas occur commonly in vestibule, lateral wall and rarely in septum of nasal cavity [2]. Among paranasal sinuses, 76% cases seen in ethmoidal sinus with left sided predominance, 16% in sphenoid sinus and 2% in frontal sinus [2]. Patients usually present with nasal obstruction, epistaxis and rhinorrhea [3].



[Table/Fig-1]: Microphotograph showing pseudostratified ciliated epithelium and features of sinonasal carcinoma – squamoid variant with keratin pearls (arrow) (H & E X 100). **[Table/Fig-2]:** Gross photograph of patient showing gray white polypoidal mass in right nostril. **[Table/Fig-3]:** Microphotograph showing tubulopapillary structure (arrow) lined by highly pleomorphic columnar cells (H & E X 400)

Microscopic types are squamous cell carcinoma, non-keratinizing squamous cell carcinoma, cylindroid (transitional) cell carcinoma, verrucous carcinoma, basaloid squamous cell carcinoma, sarcomatoid (spindle cell) carcinoma, adenocarcinoma, small cell neuroendocrine carcinoma and undifferentiated (anaplastic) carcinoma. The adenocarcinoma histologic types are tubulopapillary and intestinal. Squamous cell carcinoma is the most common type and most of them are high grade lesions [1,2]. Adenocarcinomas account for 10-20% of all malignancies of nasal cavity and paranasal sinuses [3]. Adenocarcinomas are locally aggressive tumours with propensity to local recurrence despite well differentiated in nature. Lymph node metastasis is rare [2].

Intestinal type sinonasal adenocarcinoma (ITAC), a rare variant, represents 1-4% of total malignancies of head and neck region [3]. The sites for ITAC are ethmoid sinus (40%), nasal cavity (25%), maxillary antrum (23%) and indeterminate (9%) [3]. Histological variants of ITAC are papillary, colonic, solid, mucinous and mixed. Papillary type has best prognosis [3]. Solid and mucinous tumours are the most aggressive histological subtypes [6]. ITAC can arise either with occupational exposure especially wood dust or occur sporadically. Tumours related to occupational exposure usually affect men, has strong tendency for ethmoid sinus (85-95%) but sporadic tumours affect women, involve maxillary antrum (20-50%) and have shorter survival time owing to their late presentation [3]. Local recurrence in ITAC is seen in more than 50% cases. Metastasis rarely occurs to lung, liver and bone [3]. Intracranial invasion has the worst prognosis and was more frequent in mucinous subtype tumours. Immunohistochemical results were same in all tumour subtypes, except for mucinous tumours, which showed weak expression of E-cadherin and beta-catenin. ITAC also shows lower expression of EGFR, HER2/neu and COX-2. The p16 expression has been reported to show worse survival and metastatic disease [6]. Treatment consists of combination of surgery and radiotherapy [2].

Sinonasal carcinomas are diagnosed late in their course usually with extensive bone destruction at presentation. Adenocarcinoma has a slightly better prognosis than squamous cell carcinoma. Among adenocarcinoma, there is relationship between degree of

differentiation and prognosis. Tubulopapillary tumours show minimal atypia and have an indolent course. The prognosis of undifferentiated (anaplastic) carcinoma is extremely poor [2].

In our cases, the first case was Sinonasal carcinoma, Squamoid variant and second case was ITAC. Both the cases were seen in males in the age group between 50 – 52 years with no history of occupational exposure. The first case was misdiagnosed as inverted papilloma by clinical and radiological findings. The diagnosis of sinonasal carcinoma was incidental for which patient was subjected to radiotherapy post-operatively. In second case, biopsy showed features of sinonasal adenocarcinoma with local metastasis. The diagnosis was done late, when the patient had extensive bone destruction at presentation. However the patient didn't have lymph node involvement.

CONCLUSION

The cases are presented for its rarity and to increase the number of reported cases in the medical literature. One should be very cautious of diagnosing a nasal polyp clinically especially in elderly male with occupational exposure of nickel, wood and leather dust. Histopathological diagnosis of the biopsy is always confirmative.

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