SPINDLE CELL CARCINOMA OF NOSE - A CASE REPORT

Kailash N[1], Muniraju M[2], Faiz M[3], Archana M[4]

HOW TO CITE THIS ARTICLE:
Kailash N, Muniraju M, Faiz M, Archana M. "Spindle cell carcinoma of nose - a case report". Journal of Evolution of Medical and Dental Sciences 2013; Vol2, Issue 39, September 30; Page: 7418-7422.

ABSTRACT: Spindle cell carcinoma is a rare variant of squamous cell carcinoma. The most frequently affected site is larynx, however, it may infrequently occur in various organs; gingiva, tongue, upper aerodigestive tract including hypopharynx and nasal cavity, esophagus, skin and breast. Here is a case who presented in department of ENT with nasal complaints and was diagnosed with spindle cell carcinoma. Spindle cell carcinoma (SpCC) is a rare, high malignant variant of squamous cell carcinoma (SCC), which shows biphasic proliferation of conventional SCC component and malignant spindle shape cells with sarcomatous appearance.

INTRODUCTION:: Spindle cell carcinoma (SpCC), also known as sarcomatoid carcinoma, is a rare malignancy of the head and neck regions. It is most frequently encountered in the larynx, and also occurs in the nasal cavity, hypopharynx, oral cavity, esophagus, trachea, skin and breast. In a previous series of laryngeal malignancy, about 1% were diagnosed with SpCC.[1] Male predominance was also noted.

SpCC is an unusual form of poorly differentiated squamous cell carcinoma (SCC) consisting of elongated (spindle) epithelial cells that resemble a sarcoma. Many of these tumors may be easily confused with true sarcomas unless special immunohistologic or ultrastructural analysis is performed. Such analyses show concurrent presence of malignant epithelial and homologous sarcomatoid spindle cell components by co-expression of cytokeratin, epithelial membrane antigen, and vimentin to various degrees.[2,3]

The spindle cell components have been considered to be either a variant growth pattern of SCC, a non-neoplastic mesenchymal reaction, or a malignant admixture of epithelial and mesenchymal neoplasms.[4] However, the majority of the spindle cell components are non-diploid, which indicates that they are neoplastic and not reactive.[5] The vimentin positivity reflects that these bizarre fibroblast-like cells are carcinoma cells with true mesenchymal metaplasia. Electron microscopy often shows the presence of junctional complexes between tumor cells, with or without pericellular basal lamina and cytoplasmic skeins of intermediate filaments.[6]

CASE REPORT: A 35 year old male pt presented to ENT OPD with history of bleeding from right nasal cavity for 2 years and nasal obstruction in right nasal cavity for 1 year . Both the history was of insidious onset and progressive in nature.

Patient was advised to undergo a biopsy from the right nasal cavity and biopsy was taken from the mass in the right nasal cavity 15 days back. Following this patient was referred to our hospital for further management.

There is no significant past history and family history.

General physical examination was within normal limits.

Local examination.

Anterior rhinoscopy: revealed mild DNS to the left with a pink fleshy mass filling the right nasal cavity above the inferior turbinate. (Fig. 1) On probe test the mass was soft ,sensitive and bleeds on touch, and could not probe all around the mass as it found to be attached to the lateral nasal wall.

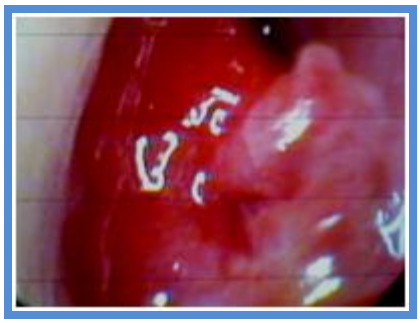

Fig. 1: Anterior rhinoscopic picture showing pink fleshy mass filling the right nasal cavity above the inferior turbinate.

Throat and ear examination was within normal limits.

Investigation: Pre op biopsy from the mass showed low grade spindle cell neoplasm.

CT SCAN OF PNS showed soft tissue mass filling the right nasal cavity with mild enhancement on contrast study.

Routine investigations were within normal limit.

Systemic examination and evaluation was normal

Pt was posted for excision of the mass under general anaesthesia after pre-anaesthetic evaluation.

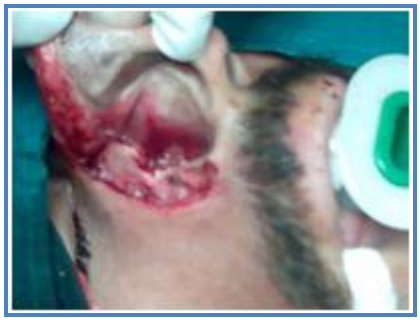

Fig. 2: Lateral rhinotomy

Lateral rhinotomy incision was taken; the right nasal cavity was exposed. (Fig. 2) Mass was seen attached to the lateral nasal wall. Mass was excised with the medial wall of the maxillary antrum i.e. medial maxillectomy done. The incision closed with 5-0 ethylon suture material and the nasal cavity was packed with antibiotic soaked gauze. The excised specimen sent for histopathological examination.

Post operative period was uneventful.

Histopathological examination: The bulk of tumor was mainly composed of bizarre, basophilic, hyperchromatic, pleomorphic spindle cells. Invasive spindle shape cells with frequent prominent mitotic figures arranged irregularly. Spindle-shaped cells revealed pleomorphism, hyperchromatism, and abnormal mitotic figures. Atypical mitoses were abundant.

The above features were consistent with low grade spindle cell carcinoma with the surgical margins free from tumour invasion. (Fig. 3)

Fig. 3: HPE- Spindle-shaped cells with pleomorphism, hyperchromatism, and abnormal mitotic figures.

Immunohistochemical findings: To confirm the diagnosis, immunohistochemistry was performed using Polymer HRP IHC detection system. Immunohistochemistry revealed that the spindle cells were focally positive for cytokeratin (Fig. 4) and strongly positive for vimentin. (Fig. 5)

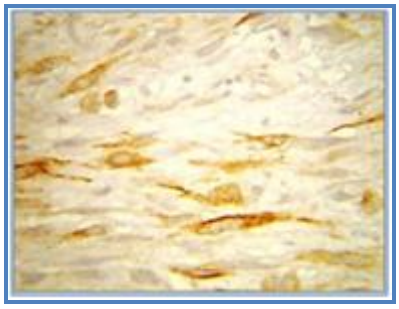

Fig. 4: Spindle-shaped cells positive for cytokeratin

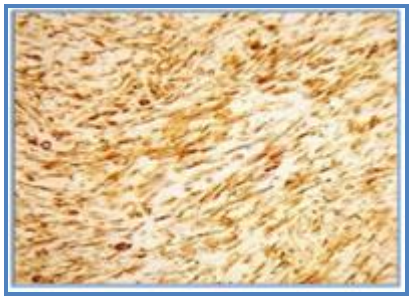

Fig. 5: Spindle-shaped cells positive for vimentin

DISCUSSION: The spindle cells in SpCC are a variant growth pattern of SCC, neither a non-neoplastic mesenchymal reaction nor a malignant admixture of epithelial and mesenchymal neoplasms. The epithelial and spindle components share a common pathway of tumorigenesis despite their conspicuous divergence at the phenotypic level.[7] Here, the question arises, "Is the behavior of SpCC different from that of SCC?"

The survival and reaction to treatment of SpCC are still controversial. Ellis et al[8] reported 59 cases of oral SpCC with a 36% survival rate. Olsen et al[9] reported 34 patients with laryngeal and hypopharyngeal SpCC; recurrence occurred in 10 patients, 8 patients died of their disease, and the 3-year survival rate was 56.8%.

Olsen et al considered that SpCC was similar to conventional SCC of the larynx, but there were only 2 cases of stage III and 2 cases of stage IV in their series. Leventon et al[10] found that survival was related to depth of invasion; in patients whose tumors invaded deeply, survival rate was low, whereas in those whose tumors were superficial, survival prospects were excellent. Alonso et al[11] found that SpCC demonstrated prominent local invasiveness, high angiogenic response, and a

90–100% incidence of lung metastases when inoculated subcutaneously into syngeneic mice. It is known that in the inflammatory state, the epithelioid cell might change its shape into the spindle morphology to aid in migration. Kaposi's sarcoma is another famous example, which is characterized by spindle cell proliferation, inflammatory cell infiltration, angiogenesis, edema, and invasiveness.[12] These facts suggest that the spindle cell pattern might be linked with invasiveness and metastasis.

Radiation therapy might be helpful in improving local control in patients with positive surgical margins. Colozza et al[13] reported an amazing experience of chemotherapy for a patient who head neck and lung metastases by SpCC from an unknown primary site.

The patient had a complete response to cisplatin and 5-fluorouracil, and was disease-free 12 months after diagnosis.

REFERENCES:

1. Michaels L, Hellquist HB. Ear, Nose and Throat Histopathology, 2nd edition. London: Springer, 2001: 400–3.
2. Weidner N. Sarcomatoid carcinoma of the upper aero digestive tract. Semin Diagn Pathol 1987; 4:157–68.
3. Batsakis JG, Suarez P. Sarcomatoid carcinomas of the upper aero digestive tracts. Adv Anat Pathol 2000; 7:282–93.
4. Zarbo RJ, Crissman JD, Venkat H, Weiss MA. Spindle-cell carcinoma of the upper aerodigestive tract mucosa: an immunohistologic and ultrastructural study of 18 biphasic tumors and comparison with seven monophasic spindle-cell tumors. Am J Surg Pathol 1986; 10:741–53.
5. Lewis JE, Olsen KD, Sebo TJ. Spindle cell carcinoma of the larynx: review of 26 cases including DNA content and immunohistochemistry. Hum Pathol 1997; 28:664–73.
6. Choi HR, Sturgis EM, Rosenthal DI, Luna MA, Batsakis JG, El-Naggar AK. Sarcomatoid carcinoma of the head and neck: molecular evidence for evolution and progression from conventional squamous cell carcinomas. Am J Surg Pathol 2003; 27:1216–20.
7. Ansari MA, Hoque M, Califano J, Westra WH. Immunohistochemical p53 expression patterns in sarcomatoid carcinomas of the upper respiratory tract. Am J Surg Pathol 2002; 26:1024–31.
8. Ellis GL, Corio RL. Spindle cell carcinoma of the oral cavity: a clinicopathologic assessment of fifty-nine cases. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1980; 50:523–33.
9. Olsen KD, Lewis JE, Suman VJ. Spindle-cell carcinoma of the larynx and hypopharynx. Otolaryngol Head Neck Surg 1997; 116:47–52.
10. Leventon GS, Evans HL. Sarcomatoid squamous cell carcinoma of the mucous membranes of the head and neck: a clinicopathologic study of 20 cases. Cancer 1981; 48:994–1003.
11. Alonso DF, Farias EF, Urtreger A, Ladeda V, Vidal MC, Bal De Kier Joffe E. Characterization of F3II, a sarcomatoid mammary carcinoma cell line originated from a clonal subpopulation of a mouse adenocarcinoma. J Surg Oncol 1996; 62: 288–97.
12. Montaldo F, Maffe A, Morini M, Noonan D, Giordano S, Albini A, Prat M. Expression of functional tyrosine kinases on immortalized Kaposi's sarcoma cells. J Cell Physiol 2000; 184: 246–54.

13. Colozza M, Grignani F, Crino L, Tonato M, Davis S. Metastatic spindle cell carcinoma: a complete response induced by cisplatin and 5-fluorouracil. Anticancer Res 1988; 8:457–8.

AUTHORS:

1. Kailash N.
2. Muniraju M.
3. Faiz M.
4. Archana M.

PARTICULARS OF CONTRIBUTORS:

1. Professor, Department of ENT, Dr. B.R. Ambedkar Medical College, Kadugondanahalli, Bangalore.
2. Associate Professor, Department of ENT, Dr. B.R. Ambedkar Medical College, Kadugondanahalli, Bangalore.
3. Senior Resident, Department of ENT, Dr. B.R. Ambedkar Medical College, Kadugondanahalli, Bangalore.
4. Senior Resident, Department of ENT, Dr. B.R. Ambedkar Medical College, Kadugondanahalli, Bangalore.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. M. Muniraju,
Associate Professor,
Department of ENT,
Dr. B.R. Ambedkar Medical College,
Kadugondanahalli, Bangalore – 560032.
Email- drmuniraju@yahoo.in

Date of Submission: 09/09/2013.
Date of Peer Review: 10/09/2013.
Date of Acceptance: 19/09/2013.
Date of Publishing: 24/09/2013