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Case Report

PRIMARY SINONASAL DIFFUSE LARGE B CELL LYMPHOMA MASQUERADING AS A BENIGN NASAL POLYP: A RARE CASE REPORT WITH REVIEW OF LITERATURE

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ABSTRACT

Non-Hodgkin lymphoma (NHL) of sinonasal tract is a rare entity. Here we report a case of primary NHL involving sinonasal tract in an elderly male, which was noticed incidentally with diagnostic quandary during its early clinical evaluation but with the aid of histopathological and immunohistochemical examination finally confirmed as diffuse large B cell lymphoma (DLBCL).

Keywords: *Diffuse Large B Cell Lymphoma, Examination, Sino Nasal Tract*

INTRODUCTION

Lymphomas of the sinonasal tract are known to represent a heterogeneous group of neoplasms (Clearly and Batsakis, 1994). Common primary extra-nodal sites of lymphomas include liver, soft tissue, dura, bone, stomach, intestine and bone marrow. The nasal cavities and paranasal sinuses are rare sites for primary NHL (Wang *et al.*, 2000). Primary NHL arising in the head and neck area accounts for 10% of all NHL and 30% of extra nodal NHL (Abbondanzo and Wenig, 1995).

CASES

An 85 yr old male patient was referred to ENT department, for an episode of nasal bleed during attempts to pass a Ryle's tube through right nasal cavity. The patient did not have any previous history of nasal bleed. Patient had underwent inguinal hernioplasty recently and discharged from the hospital but came back to Surgery OPD with history of upper abdominal tightness, distention and belching. Nasogastric tube insertion was tried to decompress the stomach, but tube could not be passed easily through right nasal cavity and lead to nasal bleeding. Patient had no other significant medical history. On examination there was a bulge in the right lateral wall of nose with widening of nasal bridge [Figure 1]. A single oval fleshy mass protruding up to the nasal vestibule was found, which was firm in consistency, non-tender and did not bleed on probing. Septum was pushed to the left side. No attachment of the mass was seen in the vestibule. No other tumorous mass or lymphadenopathy was recognized in the body. A CT scan of paranasal sinus was done and showed a large soft tissue density mass in the right nasal cavity, extending into the ethmoidal sinus upto the sphenoid sinus. Mild thinning of the inferior bony wall of sphenoid sinus was noted. Radiological features are suggestive of sinonasal polyp [Figure 2]. Punch biopsy of the mass was taken and was inconclusive. Patient was posted for polypectomy under general anesthesia. Intraoperatively a polypoidal mass was noticed, attached to turbinates, posterior end of septum, lamina papyracea, cribriform plate, occupying the whole of right nasal cavity and extending up to right upper one fourth of basi oociput [Figure 3]. De bulking of the mass was done and complete removal could not be accomplished due to anticipated anaesthetic risks and extensive attachment of mass to surrounding structures. Specimen was fixed in 10% formalin and sent for histopathological evaluation. Section studied from multiple bits of lesional tissue showed, lining of pseudostratified ciliated columnar epithelium. Underlying stroma composed of diffuse infiltration of lymphoid cells with focal necrotic and apoptotic

debris. Tumor cells were having round, hyperchromatic nucleus and scant cytoplasm. Few cells were with prominent nucleoli and occasional cells were showing abnormal mitosis [Figure 4,5].

Immunohistochemistry (IHC) was performed on formalin fixed, paraffin-embedded tissue sections. Tumour cells were positive for CD 45, CD20, CD79a but negative for CD 3, CD30 and CD 56. Based on these IHC findings final diagnosis of DLBCL was made. Patient is undergoing further treatment.

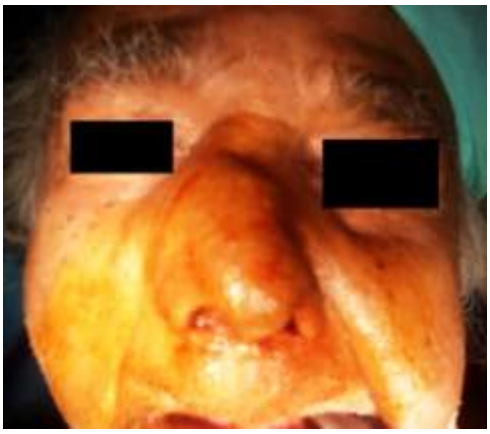

Figure 1: Bulge in the right lateral wall of nose with widening of nasal bridge

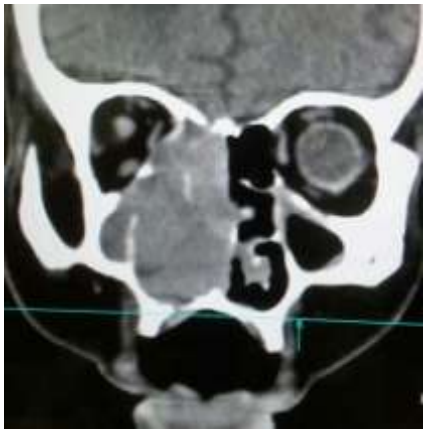

Figure 2: Computed tomography (CT) image of paranasal sinus showing right sinonasal mass

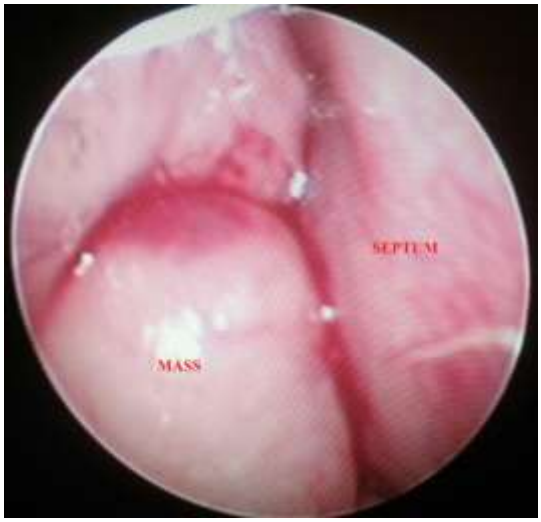

Figure 3: Polypoidal mass attached to turbinates and posterior end of septum

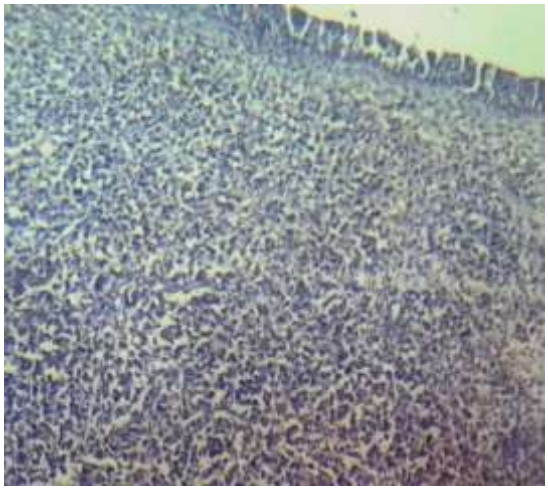

Figure 4: Histopathology showing lining of pseudostratified ciliated columnar epithelium with underlying stroma composed of diffuse infiltration of monotonous lymphoid cells (lower magnification)

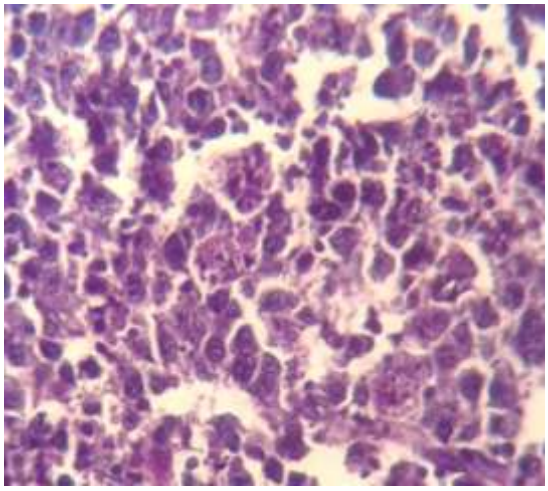

Figure 5: Histopathology showing, large to medium sized, neoplastic lymphoid cells in a background of necrotic and apoptotic debris (higher magnification)

DISCUSSION

Primary malignant lymphomas of the paranasal sinus account for approximately 8% of paranasal malignancies and only 2% of all primary extra nodal non- Hodgkin's lymphoma (NHL) (Yasumoto *et al.*, 2000). The present case was a primary lymphoma because no other tumours or lymphadenopathy were recognized in the body and USG abdomen has not revealed any organomegaly.

There are three subtypes of NHL on the basis of their immunohistochemical findings: B-cell lymphoma, T-cell lymphoma and natural killer (NK)/T-cell lymphoma (Kim *et al.*, 2004). Among subtypes seen in nasal lymphomas, the most common in the Asian population is the NK/T-cell lymphoma. Whereas B cell subtype is most common in the Western population (Vidal *et al.*, 1999) but the present case is in contrary to this general finding (Nakamura *et al.*, 1997). These lymphomas have a poor prognosis which is usually worse than that associated with lymphomas in other sites in the body (Jacobs and Hoppe, 1985).

NHLs of the head and neck occur predominantly in patients between the ages of 50 and 60 years with male predominance (Weber *et al.*, 2003). The usual presenting symptoms of sinonasal lymphomas are nasal obstruction, discharge, epistaxis, unilateral facial and cheek swelling, headache and symptoms secondary to tumour extension (Kamath *et al.*, 2006). In our case the lesion was asymptomatic and found

incidentally while evaluating the patient for traumatic epistaxis following a nasogastric tube insertion. An early diagnosis of primary NHL of the sinonasal tract is unusual because such a lesion develops in an anatomic space and expands toward the sinus or nasal cavity, usually causing no symptoms at the early stage. Only after reaching a considerable size and involving adjacent anatomic structures the presenting symptoms appear and they may masquerade as other nasal or head and neck diseases (Bist *et al.,* 2009). In our case, based on clinical and radiological findings the sinonasal mass was initially thought to be of a benign nasal polyp.

The nasal cavity is the predominant site of involvement in T-cell and NK/T-cell lymphomas, whereas sinus involvement without nasal disease is more common in B-cell lymphomas (Kim *et al.,* 2004). NHLs of the paranasal sinus are extending commonly into the orbits. When lymphomas occupy multiple sinonasal cavities, the primary site is often not clear. Diffuse large B cell lymphoma (DLBCL) is the most common type of NHL in the ethmoid sinus and epiglottis. Ethmoid sinus involvement was also seen in our case (Yasumoto *et al.,* 2000). Diagnosis of destructive diseases of the sinonasal region depends on clinical and pathological findings, as imaging in these lesions may not reveal definite diagnosis (Borges *et al.,* 2000).

Histopathology in DLBCL, the mucosa shows dense, diffuse and interstitial infiltration by large or medium-sized lymphoid cells. The tumour cells may resemble centroblasts or immunoblasts, or have a non-specific blastoid appearance. The nuclei are round, multilobated or irregularly folded, with multiple small membrane-bound nucleoli or single central prominent nucleolus. The tumour cells express pan-B markers (e.g. CD20, CD79a). Extramedullary myeloid sarcoma, plasmacytoma, undifferentiated carcinoma and amelanotic melanoma are some of the microscopic differential diagnosis but can be readily distinguished by appropriate immunohistochemical stains (Barnes *et al.,* 2005).

Non-Hodgkin's lymphomas are frequently treated with a combination of chemotherapy and radiotherapy. A review of several reports suggests that the best treatment outcomes are obtained with the CHOP (cyclophosphamide, adriamycin, vincristine and prednisone) regimen, given at three-week intervals (Nieder *et al.,* 2003). The current treatment for DLBCL consists of chemotherapy, concomitant radiotherapy, or radiotherapy alone. The current standard of care for all patients with advanced-stage DLBCL is R-CHOP. The addition of rituximab, a monoclonal antibody, has significantly improved the overall outcome (Coiffier, 2005). The primary site of the lymphoma together with phenotype (T/B cell type) and clinical stage may be important prognostic factors in primary non-Hodgkin's lymphoma of the sinonasal tract (Nakamura *et al.,* 1997).

Conclusion

Primary sinonasal NHL of diffuse large B cell type is a rare entity. The disease may be sometime asymptomatic or diagnosed incidentally and may pose diagnostic challenges by clinically masquerading as a benign nasal lesion. Clinically and radiologically, it is difficult to distinguish this lesion from other malignant neoplasms or non-neoplastic processes. Histopathological examination with the aid of immunohistochemistry is considered as a gold standard investigation, which helps in differentiating DLBCL from other possibilities and to arrive at final diagnosis.

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