Lyhoma over the nasal dorsum has never been reported. Herein, we report the case of a 74-year-old man who presented with a rapid swelling on the nasal dorsum. A physical examination revealed a firm, immobile, non-tender mass. Computed tomography revealed a space-occupying lesion in the subdermal layer of the nasal dorsum that was most likely a fibroma. An excisional biopsy was performed. Surprisingly, histopathological and immunohistochemical analyses identified a diffuse large B-cell lymphoma. The patient underwent seven cycles of chemotherapy comprising of rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone. He responded well to the regimen. No evidence of persistent or recurrent disease had been detected during the 9 months after his last chemotherapy session. Although never reported previously, lymphoma can mimic common midline nasal soft-tissue tumors and should be considered in the differential diagnosis.

**KEY WORDS:** Biopsy, cutaneous, differential diagnosis, lymphoma, nasal dorsum

### Introduction

Lymphomas are a group of complex and diverse malignancies of the reticuloendothelial and lymphatic system that predominantly involve the lymph nodes, spleen, and other extranodal tissues. They comprise of 3% to 5% of all malignancies, and non-Hodgkin lymphoma accounts for 60% of all lymphoma cases. The head and neck region is the second most common site of extranodal lymphomas, after the gastrointestinal tract. Lymphomas in the nose are extremely rare, representing only 1.5% of all lymphomas. Nasal lymphomas usually involve the nasal cavity, paranasal sinuses, or aerodigestive tract. To the best of our knowledge, there have been no case report of a primary lymphoma originating in the nasal dorsum.

In this paper, we present a case of early-stage lymphoma arising within the subcutaneous region of the nasal dorsum that was initially diagnosed as a fibroma.
showed normal levels of leukocytes, erythrocytes, and thrombocytes.

The mass was removed by means of direct excision under general anesthesia. During the operation, we found that the lesion was located in the subcutaneous space and had adhered to a small part of the nasalis muscle [Figure 3]. Intraoperative frozen-section examination demonstrated a malignant tumor invading the muscle tissue. The mass along with the muscle it had attached to and some of the surrounding normal adipose tissue was separated from the underlying nasal bone. Unexpectedly, routine postoperative histopathological examination of paraffin-embedded sections of the tissue specimen revealed diffuse large B-cell lymphoma, with muscle and adipose tissue involvement [Figure 4]. Immunohistochemical staining of the lesion showed diffuse infiltration of large neoplastic cells that were CD20+, CD79a+, CD45RO+, BCL-6+, BCL-2+, OCT-2+, PAX-5+, MUM-1+, KI-67+ (55%), and C-MYC+ (40%). Epstein–Barr encoding region in situ hybridization yielded a negative result.

With a confirmed pathological diagnosis, the patient was transferred to the hematology/oncology department of our hospital 2 weeks after the operation. Subsequently, bone-marrow biopsy showed no abnormalities, with no lymphoma infiltration. Systemic lymphoma involvement was not found on positron-emission tomography-CT. The tumor was staged as IE according to the Ann Arbor staging system, and the patient was advised to undergo seven cycles of chemotherapy comprising of rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone. The patient responded well to the treatment regimen. No evidence of persistent or recurrent disease was detected at 9 months after his last chemotherapy session. Regular follow-up was ongoing till reporting.
Discussion
External nasal masses are uncommon; their exact incidence is not well known, but approximately 61% of these masses are diagnosed in children.\(^3\) We created a rough classification of these lesions according to the otorhinolaryngological, neurosurgical, and pediatric literature: developmental masses, benign and malignant neoplasms, inflammatory lesions, post-traumatic deformities, vascular malformations, and others [Table 1]. Thus, the differential diagnosis should include these diseases. Radiological findings are indispensable to the investigation of lesions of the nasal dorsum,\(^3\) and usually help in the exclusion of irrelevant entities. For example, they may provide direct or indirect evidence of soft-tissue tumor with or without intracranial communication, fluid-filled cyst, solid lesion, and involvement of deeper structures.\(^4\)

Regardless, misdiagnosis is still the norm rather than the exception in such cases, just as in our case, the detection of lymphoma on histopathological examination was unexpected. Excisional or fine-needle-aspiration biopsy is an alternative to remove the localized lesion and may establish the diagnosis.\(^4\) An incisional biopsy is usually not recommended for diagnostic confirmation because of the potential risk of secondary intracranial infection and cerebrospinal fluid leak in the case of probable intracranial communication.\(^4\)

In general, in patients with external nasal masses, a diagnosis of lymphoma should also be considered in addition to common soft-tissue tumors, especially when the lesion involves the nasal dorsum and is associated with rapid swelling. If necessary, excisional or fine-needle-aspiration biopsy may be performed. Referral to the hematology/oncology service is very helpful for the diagnosis and management of lymphoma.

Conclusion
Through our review of the literature, we concluded that primary involvement of the nasal dorsum is an exceedingly rare manifestation of lymphoma. This case highlights the important role of a high index of suspicion for lymphoma and biopsy examination.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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