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## Case Report

# Metastasis of glioblastoma multiforme in cervical lymph nodes: A rare case report

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### ABSTRACT

Extraneural metastasis from glioblastoma multiforme are rare and is usually seen in previously operated patients. Here, we present a case of a 22 yr-old-male of glioblastoma multiforme with metastasis in cervical lymph node that was diagnosed by fine needle aspiration cytology (FNAC).

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## 1. Introduction

Glioblastoma multiforme are high grade tumours of the brain with very poor prognosis. Though they are very aggressive in nature yet extracranial spread of GBM is very rare. Only few cases of extracranial metastasis of GBM have been reported so far in the literature. Most of these cases have been seen in association of repeated surgical procedures like craniotomy.

## 2. Case Report

A 22 year old male presented in ENT OPD with complaints of multiple swellings in the left cervical region since 10 days associated with difficulty in swallowing and change in voice. No history of fever, cough or T.B. contact was there. However, patient gave a surgical history of having undergone Left Frontal craniotomy with tumour decompression for Glioblastoma multiforme (GBM) 2 years back.

FNAC was done from cervical swelling left side measuring 2 X1.5 cm and yielded blood mixed aspirate.

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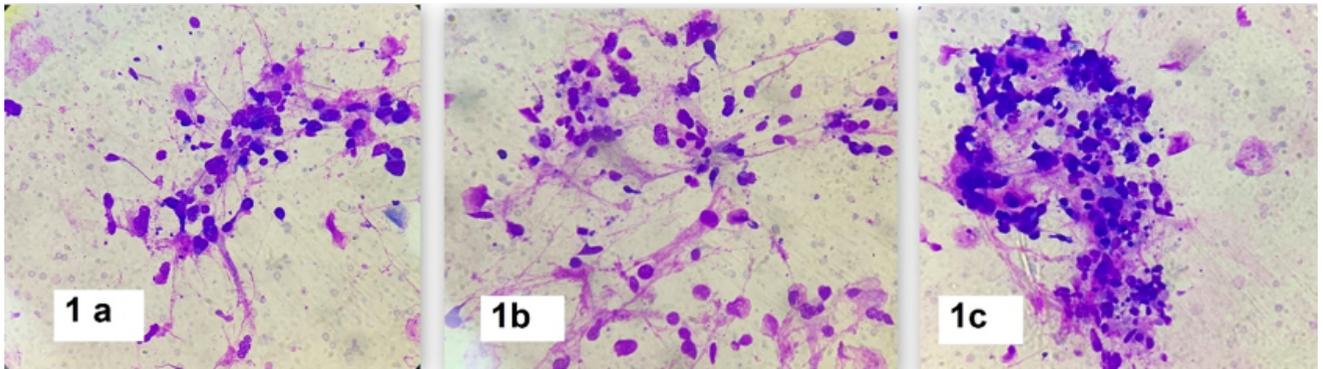
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Geimsa stained smears prepared and examined revealed atypical cells having round to oval to spindle shaped nuclei with focal nuclear overlapping and crowding, irregular nuclear contour and moderate amount of ill defined cytoplasm which was vacuolated at places. The atypical cells were seen embedded in eosinophilic fibrillary material in a background of RBCs and lymphoid cells. [Figure 1 a,b,c]. Cytological findings were positive for malignancy. Clinical history provided favoured metastatic deposits from glioblastoma multiforme.

Lymph node biopsy with histopathological examination was planned to confirm the cytological diagnosis using relevant immunohistochemistry (IHC). However, the patient was lost to follow up and did not turn up for biopsy.

## 3. Discussion

Extraneural metastasis from GBM or other primary CNS tumours are very rare with an incidence of around 0.5%.<sup>1</sup> The first case of extracranial metastasis was reported in 1928.<sup>2</sup> The most common sites of extraneural metastasis from GBM include lungs, pleura, liver, mediastinal and cervical lymph nodes, and bone or bone marrow.<sup>3</sup> To explain the rarity of extraneural metastasis of GBM



**Fig. 1: a,b,c :** Geimsa stained FNAC smears showing pleomorphic cells in loosely cohesive clusters with prominent nucleoli, coarsely clumped chromatin and eosinophilic cellular processes

despite its highly malignant nature, many hypothesis have been proposed. One possible explanation for this is that GBMs are prevented from metastasizing by the relatively impassable dura, the extracellular matrix and the tough basement membrane around intracerebral blood vessels. Extraneural metastases from GBMs are seen most commonly with procedures that give the glioma cells access to extrameningeal structures, such as ventricular shunting or repeated craniotomies.<sup>4</sup> In most cases of lymph node involvement the patient has undergone repeated craniotomies,<sup>5</sup> presumably the tumor gains access to lymphatics by dural or scalp extension through the surgical defect.

The FNAC smear from cervical lymph node shows the characteristic features for high-grade gliomas like abundant cellularity, necrosis and glomeruloid capillaries with small tumor cells displaying marked pleomorphism.<sup>6</sup> The differential diagnosis for extraneural metastasis include other small cell tumors, such as small cell carcinoma, poorly differentiated carcinoma, embryonal rhabdomyosarcoma and neuroblastoma.<sup>7</sup>

To conclude, though extracranial metastasis of GBM is rare but fine needle aspiration and cytology is a simple and reliable tool to diagnose the same.

#### 4. Source of Funding

None.

#### 5. Conflicts of Interest

There is no conflict of interest.

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