

## Case Report

# Tubercular Lymphadenitis Mimicking Findings of Metastatic Signet Cell Carcinoma in FNAC: A Case Report

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## ABSTRACT

Tubercular lymphadenitis is one of the most common extra pulmonary tubercular lesion presented in the Outpatient Department which is commonly diagnosed by Fine needle aspiration cytology. Cytological diagnosis of tuberculosis requires presence of epithelioid cell granulomas demonstration with or without Langhan's giant cells and necrosis. Sometimes, there can a proliferation of signet like cells without granulomas, which in a cervical lymph node can be give a false interpretation of metastatic signet cell carcinoma.

A 35 year female patient with complain of cervical lymphadenopathy came to the medical OPD. FNAC was done which showed numerous scattered signet ring cells. However, epithelioid cell granulomas weren't observed in the smears. Zeihl Neelsen stain for Acid fast bacilli was done but the organism wasn't appreciated. Biopsy was done and a histopathological slide showed epithelioid cell granulomas and Langhan's giant cell. Zeihl Neelsen Stain for Acid fast bacilli, which was positive.

**KEYWORDS:** Lymphadenitis; Tuberculosis; Signet ring

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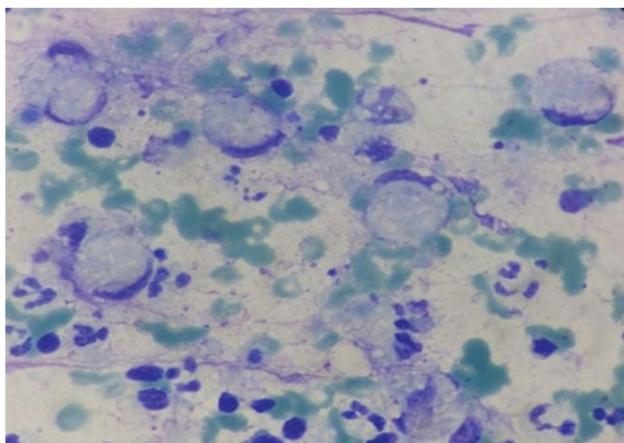
## INTRODUCTION

Tubercular lymphadenitis is one of the most common extra pulmonary tubercular lesion presented in the Outpatient Department<sup>1</sup> which is commonly diagnosed by Fine needle aspiration cytology, as it is comparatively safe and cheap procedure, requiring minimal instrumentation.<sup>2</sup> Cytological diagnosis of tuberculosis requires presence of epithelioid cell granulomas demonstration with or without Langhan's giant cells and necrosis.<sup>3</sup> But the classical cytological findings may not be always available for the diagnosis and the involved macrophages may take other forms rather than converting into epithelioid cells. Sometimes, there can a proliferation of signet like cells without granulomas, which in a cervical lymph node can be give a false interpretation of metastatic signet cell carcinoma. Histopathology

is a gold standard for a diagnosis of lymph node pathology<sup>4</sup> which should always be done before reaching a diagnosis, whenever there is a diagnostic dilemma and a clinical mismatch.

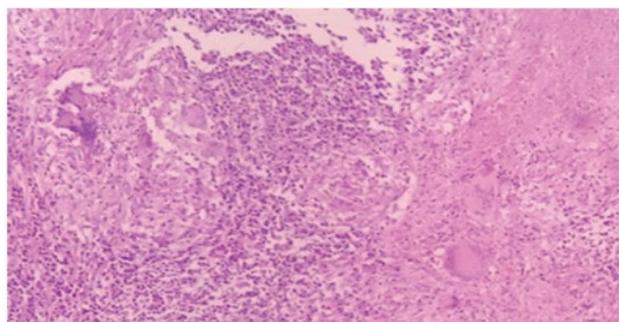
### #CASE REPORT

A 35 years female patient came to the Outpatient Department of Internal Medicine of Nobel Medical College, with a complaint of weight loss and enlarged cervical lymph node. FNAC was done which showed numerous scatter signet ring cells (fig.1) with nucleus pushed to a periphery. Necrosis and granulomas were not observed in examined smears. Occasional neutrophils were also present in a lymphoid background. Zeihl Neelsen



**Figure 1: Cytological smear showing scattered foamy signet ring shaped cells with nucleus pushed to a periphery (Giemsa Stain; X400).**

Stain for Acid fast bacilli was done, but organism couldn't be demonstrated. Ultrasonography of the abdomen was done, which was normal. Biopsy was advised and a specimen was received in a Department of Histopathology. On a histopathological slide, numerous well formed epithelioid cell granulomas were seen (Fig.2). Zeihl Neelsen stain for Acid fast bacilli was done and organism was demonstrated (Fig.3).



**Figure 2: Histopathological section showing epithelioid cell granulomas along with Langhan's giant cells (HE stain; X 400).**



**Figure 3: Sections showing Acid fast bacilli (Zeihl Neelsen Stain; X1000).**

## DISCUSSION

Tubercular lymphadenitis is one of the most common cause of enlargement of cervical lymph node in Nepal.<sup>5</sup> FNAC is considered as a simple, safe and cost effective diagnostic tool for a diagnosis of a lymph node enlargement.<sup>6</sup> Main basis of diagnosis of Tubercular lymphadenitis is a presence of its classical cytological finding of epithelioid cell granulomas and caseous necrosis but sometimes macrophages changes to some other distinctive forms which may lead to a misinterpretation.

Macrophages are identified by foamy cytoplasm consisting of minute vacuoles and usually with peripheral nuclei.<sup>7</sup> Presence of such macrophages in a cervical lymph node can easily interpreted as metastatic signet cell carcinoma in absence of well-formed granulomas and whenever there is a limitation of immunocytochemistry. There are numerous reported cases of

such morphometric variation of macrophages in gastric<sup>8</sup> biopsy and prostate.<sup>9</sup> However, there weren't any cases reported on FNAC of a lymph node.

Our patient was a young female with a history of a cervical lymphadenopathy for 2 months. Cytomorphology was suggestive of metastatic signet cell carcinoma but there were not supportive clinical and radiological evidence. A warranted biopsy revealed numerous granulomas and a positive ZN stain for Acid fast bacilli.

## CONCLUSIONS

Macrophages are a great mimicker. One should be very cautious and look for other features in a slide before coming into conclusion. Biopsy should always be advised in a case of diagnostic dilemma of lymph node pathology in FNAC before reaching a final diagnosis.

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