



ORIGINAL ARTICLE



Cervical Node Toxoplasmosis in Immunocompetent

Dr Sherman Tay Puo Hao ^{1*} | Dr Siti Halimahtun Sahab ² | Dr Noorizan Yahya ³ | Dr Siti Sarah Razak ⁴ | Dr Mohamad Khir Abdullah ⁵

¹Department of Otorhinolaryngology-Head & Neck Surgery, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia

²Department of Otorhinolaryngology-Head & Neck Surgery, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia

³Department of Otorhinolaryngology-Head & Neck Surgery, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia, Clinical Research Centre, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia

⁴: Department of Otorhinolaryngology-Head & Neck Surgery, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia

⁵Department of Otorhinolaryngology-Head & Neck Surgery, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia

Abstract

Cervical lymphadenopathy is commonly seen in otorhinolaryngology clinic for various etiologies. Toxoplasmosis is one of the rare cause of cervical lymphadenopathy. We reported a case of young immunocompetent woman who presented with right cervical lymphadenopathy in which we suspect lymphoma, however histopathological examination showed micro granuloma and Toxoplasma serology was positive.

Keywords: Toxoplasmosis, cervical lymphadenopathy, granulomatous, immunocompetent

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1 | INTRODUCTION

Toxoplasmosis is a parasitic infection caused by obligate parasite *Toxoplasma Gondii*. Lymphadenopathy primarily cervical type is one of the most common encountered clinical findings of acquired toxoplasmosis. It has been estimated that 15% of unexplained lymphadenopathy is due to toxoplasmosis. (1) The parasite can be presented in

3 distinct forms which are tachyzoite, bradyzoite or oocyst. Handling of contaminated cat litter is known to be the majority route of transmission. It is also possible to produce clinical disease in the form of ingestion raw or incomplete cooked poultry. Diagnosis of toxoplasmosis lymphadenopathy is made by histopathology. However, Hodgkin Lymphoma with lymphocytic predominance may be mistaken with toxoplasmosis as both disorders have similar nodular

structure and showed epithelioid histiocytes within nodule. A case of suspected lymphoma on cytology diagnosed as toxoplasmosis after an open biopsy in an immunocompetent with no risk factor is reviewed.

2 | CASE REPORT

A 28-year-old female presented with gradual right neck swelling for one month associated with loss of weight. She was treated with 1 course of oral Amoxicillin Clavulanate but swelling did not resolve. She has no night sweats, fever or prolonged cough. Physical examination of the neck revealed an enlarged lymph node, 1.5cm in diameter over right level IV cervical region. It was firm, round and non-tender. Flexible nasopharyngolaryngoscopy was unremarkable.

Fine needle aspiration showed atypical lymphoid cells and proceeded with an open biopsy. Histopathology report revealed scattered small collection of histiocytes and epithelioid cells forming microgranuloma suggestive of granulomatous disease (Figure 1). Further investigations were sent including *Ziehl Nielsen* stain which was negative for acid fast bacilli.

Serological screening of viral studies was negative. Serum IgG and IgM *Toxoplasma* were taken and turned to be reactive; hence diagnosis of *Toxoplasma* cervical lymphadenopathy was made. Further history was taken and patient denied of cat exposure or consumption of raw poultry. Patient was treated conservatively in view of resolved neck nodes, and there was no recurrence seen during follow up.

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Corresponding Author: *Dr Sherman Tay Puo Hao*
Department of Otorhinolaryngology-Head & Neck Surgery, Hospital Pakar Sultanah Fatimah, Muar, Johor, Malaysia
Email: sherman_taypuohao@hotmail.com

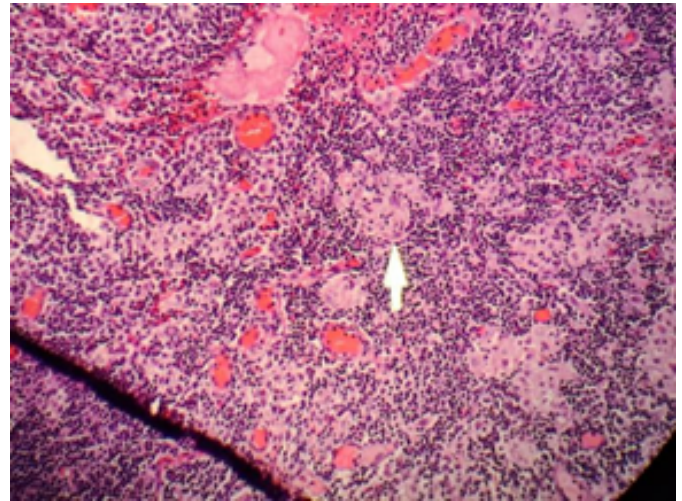


FIGURE 1: The white arrow showing micro granuloma

3 | DISCUSSION

Infection of humans with *Toxoplasma Gondii* is common worldwide with prevalence varying according to environment, eating habits and age. Contact with obligate intracellular protozoan parasite may occur through direct ingestion of food contaminated with cat feces or when carried on body of insects including housefly. Clinical presentation of *Toxoplasma Gondii* infection depends on age and immune status of patient (2).

Toxoplasmosis may account for 15 % of cases of lymphadenopathy which cannot be explained by other etiological factors (3). This organism is usually killed rapidly by gastric juice; however, presence of infection can be caused by penetration of oral mucosa. This explained the fact that cervical lymphadenopathy is a common clinical presentation for toxoplasmosis. Due to this rate of occurrence, it should be always considered as a possibility when patient presented with unexplained cervical lymphadenopathy in which diagnosis were in doubt after an open biopsy (1).

Infection caused by *Toxoplasma Gondii* more frequently seen in immunocompromised patients such as Human Immunodeficiency Virus (HIV) infection, cancer and transplant recipients but it can also occur in immunocompetent individuals where they are usually asymptomatic and self-limiting. In immunocompromised patients, toxoplasmosis often presented

with neurological signs, including headache, disorientation, drowsiness, hemiparesis, reflex changes or convulsions and may also involve multiple organs. (4)

Diagnosis of *Toxoplasma Gondii* infection can be made via direct or indirect method. Indirect method such as serology testing is used to detect antibodies. In the presence of cervical lymphadenopathy, the disease may be completely unsuspected until a biopsy of an involved lymph node is performed. Histology confirmation is difficult because of the problems of identifying trophozoites and cysts (5), (6) (7). The recent introduction of an immunohistochemical technique has now made the diagnosis of toxoplasmosis easy (5) .

While toxoplasmosis should be distinguished from other benign lymph node hyperplasia, it is even more important to differentiate it from malignant lymphomas. Histological differential diagnosis between toxoplasmosis and malignant lymphoma is usually not difficult where in Toxoplasmosis, there are preservation of follicular structure with marked hyperplasia of germinal centers, while in malignant lymphoma, the structure of lymph node is usually destroyed with absent germinal centers. However, there are situations in differentiating toxoplasmosis with Hodgkin's Lymphoma, lymphocytic predominance nodular subtype (HDLPN). Features favor diagnoses of toxoplasmosis are general appearance of reactive hyperplasia, presence of epitheloid cell cluster inside the germinal centres and presence of strands of monocytoïd cells.

On the basis of this study , the occurrence of epitheloid cells within germinal centres seems to be specific for toxoplasmosis , a differential diagnostic point previously stated by Lennert and Mestdagh 1968. (8), (9)

4 | CONCLUSION

We present a case of acute toxoplasmosis manifesting as cervical lymphadenopathy with no risk factor. A broad differential diagnosis should be kept in mind when patients present with lymphadenopathy and appropriate testing should be performed. When diagnosis is made treatment is rarely required for

asymptomatic patients whom are immunocompetent. Proper education, awareness and counseling regarding risk factor can reduce incidence of acquiring infection.

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