

## Images

# Toxoplasma lymphadenitis caused by ingestion of raw blood and meat of deer in a 10-year-old boy

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*Toxoplasma gondii* infection in humans usually develops through the ingestion of raw or undercooked meat from an infected animal.<sup>1</sup> The presence of *T. gondii* DNA has been recently reported in the blood and milk of livestock, which can thus be another potential source of infection through the oral route.<sup>2</sup>

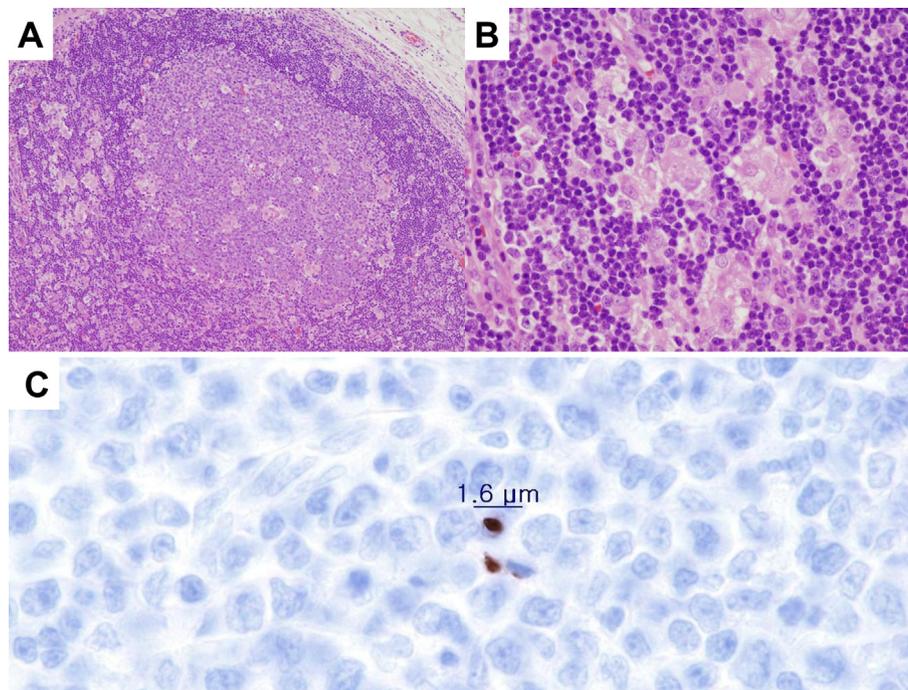
A 10-year-old boy presented with a 2-week history of unilateral cervical mass. Physical examination revealed an enlarged lymph node in the left posterior neck, measuring 3 cm in diameter, which was nontender, freely mobile, and firm. His past history showed that he sometimes drank raw blood (three times, total amount of 180 mL) and ate raw meat once (2 × 3 cm in size, three pieces) of the farm deer (*Cervus nippon*) for 2 weeks, about a month before the development of the mass on his neck. Ultrasound examination revealed a lymph node measuring 3 × 1 cm in size at the posterior cervical area. A chemiluminescent immunoassay (Access Toxo IgM II and IgG, Beckman Coulter Inc., USA) was performed for a serologic diagnosis of toxoplasma infection,<sup>3</sup> which revealed elevated antibody titers of 2.0 IU/mL for IgM (normal, <0.5 IU/mL), and >300 IU/mL for

IgG (normal, <2.0 IU/mL). Subsequently, an excisional biopsy of the neck mass was performed. Gross finding of the resected lymph node was unremarkable. Microscopic examinations of the specimens showed characteristic findings suggestive of toxoplasma lymphadenitis (Fig. 1A and B), and protozoa were identified by immunohistochemical stains using primary polyclonal anti-*T. gondii* antibody (rabbit) (1:50, Cell Marque, USA) (Fig. 1C).<sup>4</sup> After the excision, he remained free of any cervical masses.

Although there is still a lack of data from Korea, according to a report from China, the seroprevalence of *T. gondii* infection in domestic sika deer (*C. nippon*) has been found to be 13.5%.<sup>5</sup> Therefore, in the present case, both *T. gondii* tachyzoites in the blood of the deer and tissue cysts in the venison were considered to be the source of infection,<sup>2,6</sup> this type of infection route in childhood has not been previously reported. In this case, the boy had eaten raw blood and meat of the farm deer due to inducement of his father who had a belief about its special nutritional value. An unreasonable custom for preservation of health can become an unexpected route of toxoplasma infection.

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**Figure 1** Histopathological findings. (A) The lymph node shows reactive follicular hyperplasia and clusters of epithelioid histiocytes scattered in the paracortex and germinal center (H&E,  $\times 100$ ). (B) Details of microgranuloma: epithelioid cells have abundant eosinophilic cytoplasm (H&E,  $\times 400$ ). (C) Two *T. gondii* tachyzoites are noted in the lymph node (immunohistochemical stains,  $\times 1000$ ).

### Conflict of interest

The authors have no conflicts of interest to declare.

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