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

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Received Jan 22, 2018; received in revised form Feb 26, 2018; accepted May 18, 2018
Available online 26 May 2018

Toxoplasma gondii infection in humans usually develops through the ingestion of raw or undercooked meat from an infected animal. 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.

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, 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). 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%. 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, 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.
Conflict of interest
The authors have no conflicts of interest to declare.

Acknowledgements
This study was supported by the research promoting grant from the Institute for Medical Science of Keimyung University in 2008.

References

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, × 100). (B) Details of microgranuloma: epithelioid cells have abundant eosinophilic cytoplasm (H&E, × 400). (C) Two T. gondii tachyzoites are noted in the lymph node (immunohistochemical stains, ×1000).