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BRIEF COMMUNICATION

A CASE OF MULTILOCULAR ECHINOCOCCOSIS IN A HORSE

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Key words: *Echinococcus multilocularis*, horse, natural infection.

An 8-month-old male horse, suffering from a right metacarpal bone fracture, was slaughtered on December 10, 1983. This horse had been raised in Abashiri City, eastern Hokkaido, an enzootic area of multilocular echinococcosis.

The liver was normal in general appearance, but a nodule was found on the visceral surface of the left lobe. The nodule was rounded, about 10 mm in diameter, grayish white in color, clearly demarcated, and slightly protuberated on the surface. On the cut surface , most of the nodule was embedded in the hepatic parenchyme, the central portion was whitish and the outer portion grayish white. Histological examination was conducted on serial section preparations stained with hematoxylin-eosin (H.-E.) and periodic acid Schiff (PAS). The nodule was composed of a thick outer fibrous layer and a central necrotic area. The outer layer was an adventitious layer established by granulomatous and fibrous tissues accompanied by accumulation of lymphocytes, histiocytes and a small number of eosinophiles. The central necrotic area was established by a necrotic cell mass, in which larval *Echinococcus multilocularis* composed of many minute cysts of less than 0.1mm in size was embedded. The cuticle of the echinococcal cyst was strongly positive for PAS stain.

RAUSCH & SCHILLER (1956) and OHBAYASHI et al.(1971) each reported one equine case of experimentally infected multilocular echinococcosis. In their cases, the focus

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was nodular and characterized by remarkable host tissue reactions which were the same as those of present natural case. It can be concluded that in horse cases, the development of larval *E. multilocularis* is suppressed by strong host tissue reactions at an early developmental stage. In eastern Hokkaido, swine cases of larval *E. multilocularis* infection are recognized commonly (SAKUI et al., 1984). In the USSR, *E. multilocularis kazakhensis* was reported as a subspecies infectious to domestic ungulates, namely sheep, cattle and swine, although it cannot play a role as intermediate host because of suppressed development of the larval cysts (RAUSCH, 1967; LUKASHENKO, 1971). As shown in the present case, the horse can also be infected by larval *E. multilocularis* without playing a role as intermediate host.

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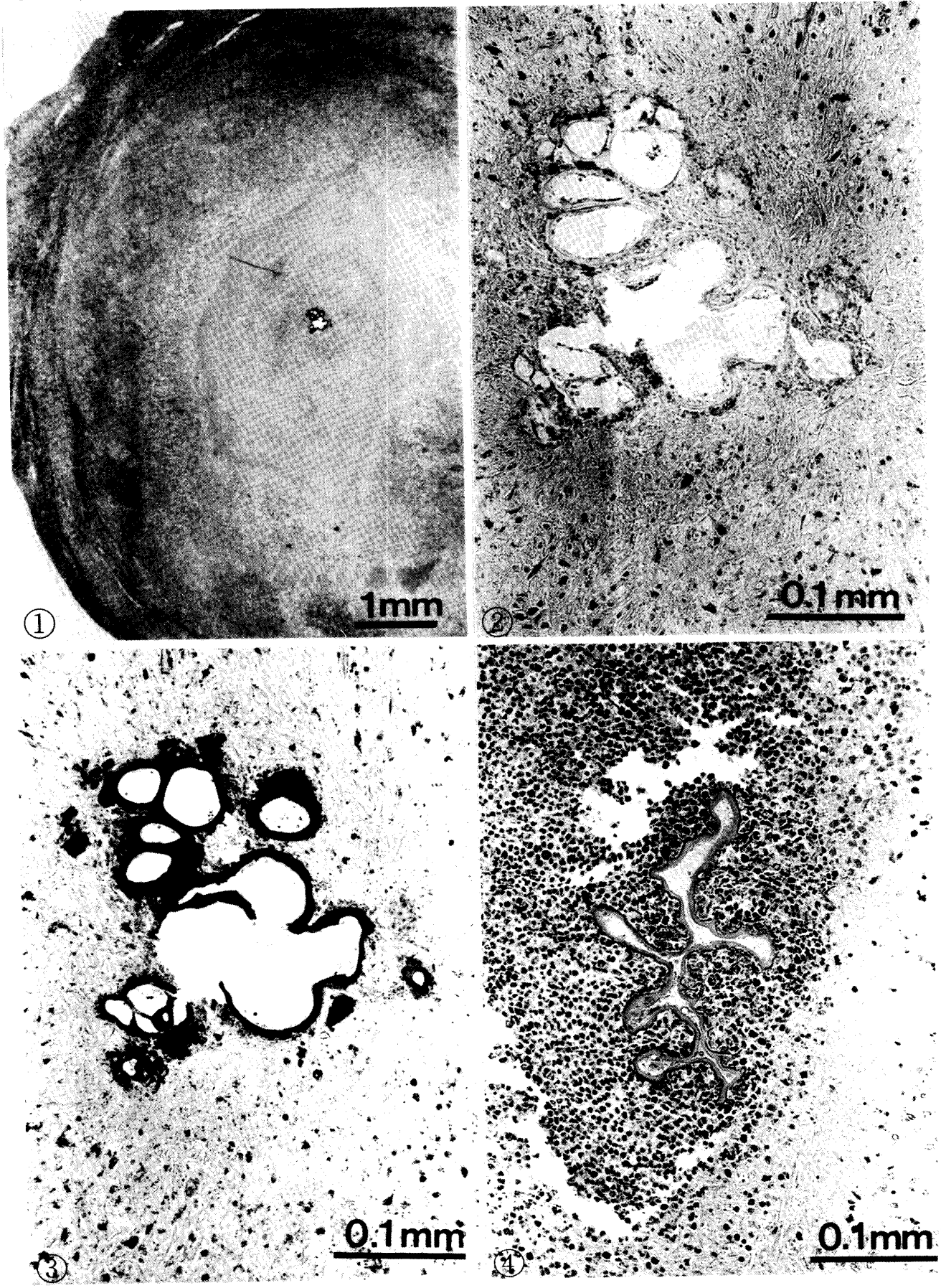
EXPLANATION OF FIGURES

Fig. 1 — A nodule showing multilocular echinococcal cysts in the necrotic center and a remarkable fibrous adventitious layer PAS stain

Figs. 2 & 3 — Magnification of fig. 1, showing echinococcal cysts stained by H-E and PAS, respectively

Fig. 4 — Multilocuar cyst embedded in degenerated cell mass H-E stain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