

HEPATIC CAPILLARIASIS IN *RATTUS NORVEGICUS*

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Summary

Hepatic capillariasis in Rattus norvegicus caused by Capillaria hepatica from Bangkok slum areas is reported. Prevalence rates are 42% in Rattus norvegicus and 7.4% in Rattus rattus.

Capillaria is one of the nematodes causing liver disease in many animals including man^{1,2}. Human intestinal disease caused by *C. philippinesis* was first reported in the Philippines in 1969³. The first case of human intestinal capillariasis in Thailand was reported in 1973⁴. This is the first report of *Capillaria hepatica* in *Rattus norvegicus*. Capillariasis in other rat species has been reported from Singapore and Malaysia⁵.

Between 1976 and 1977, a survey on parasites of domestic rodent was conducted through out the slum areas (Klong Toey, Patumwan, Lardprao) in the vicinity of Bangkok. The traps were left overnight inside the houses. The trapped rats were collected in the morning, killed by ether and immediately examined. All species of rats were necropsied. If macroscopic evidence of liver pathology was present, a portion of this organ was removed and preserved in 10% formalin. The tissues were embedded in paraffin, sectioned at 5 micron thickness, stained with hematoxylin and eosin and examined under light microscope. 188 rats from the slum areas were examined. It was found that the rates of infection by *Capillaria hepatica* was 42% in *Rattus norvegicus*, 7.4% in *Rattus rattus* and 0% in *Rattus exulans* (see Table I).

TABLE I: CAPILLARIA HEPATICA INFECTION IN THREE SPECIES OF RATS

Species	No. examined	No. positive	%
<i>Rattus norvegicus</i>	138	60	42
<i>Rattus rattus</i>	27	2	7.4
<i>Rattus exulans</i>	23	0	0

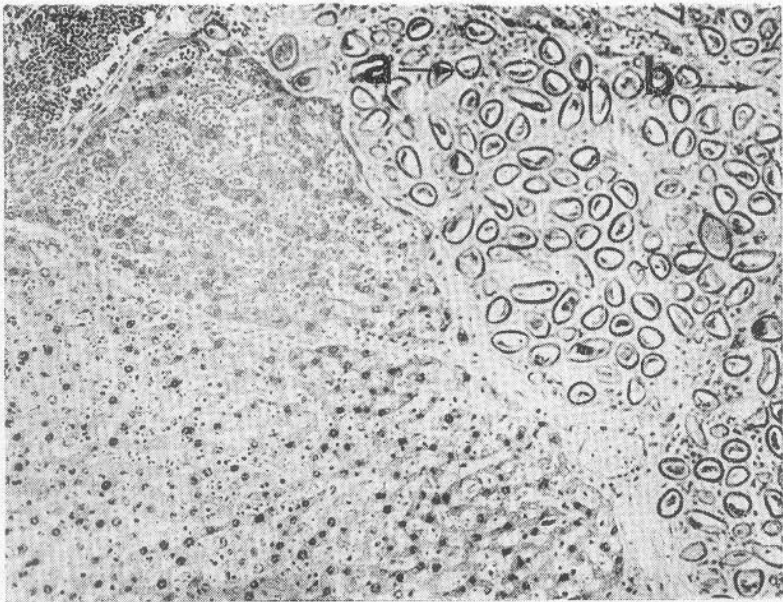


Fig. 1. Section of rat liver showing (a) the eggs of *C. hepatica* and (b) mild granulomatous response after infection ($\times 100$).

All lobes of infected livers showed multiple, white spots on inspection. Microscopic examination showed that the eggs were generally formed in clusters replacing hepatocytes. The liver cells elicited a mild fibroblastic granulomatous response (Fig. 1).

The adult worms were seen only in macerated liver tissue. The eggs were examined and measured both in fresh and stained tissue. Little variation (55-60 μ in length, 25-30 μ in width) in the egg-size was seen. This was due to the shrinkage and compaction during fixation and slide preparation. The size of these eggs was similar to that reported by Wright².

Although these rats are commonly found in slum areas, and contamination of food by the eggs of this worm is therein expected, similar contamination in apparently "clean" areas may also occur because of high mobility of the rats.

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บทคัดย่อ

ในระหว่างปี 2519 ถึง 2521 ได้ทำการสำรวจพยาธิภายในจากหนูบริเวณแหล่งสลัมกรุงเทพฯ พบว่า ในหนูชยะ *Rattus norvegicus* จะมีปริมาณการติดเชื้อโรคพยาธิตัวกลมที่มีชื่อว่า *Capillaria hepatica* 42% ของจำนวนหนูที่จับ ส่วน 7.4% พบในหนูกึ่งขาว (*Rattus rattus*) การที่พบพยาธิชนิดนี้มากในหนูชยะ อาจเนื่องจากว่า หนูชยะเป็นหนูที่ชอบอาศัยอยู่ตามบริเวณที่สกปรก