

SCHISTOSOMIASIS IN A BUFFALO CALF : A CASE REPORT

พยาธิใบไม้ในเลือดของลูกควายปลัก : รายงานสัตว์ป่วย

Peerasak Chantaraprteep¹

Montip Jettayacamin²

Lek Ousavaplangchai³

พระศักดิ์ จันทร์ประทีป

มณฑทิพย์ เจตยะคามิน

เล็ก อัสวพลังชัย

¹ Department of Obstetrics, Gynaecology and Reproduction, Faculty of Veterinary Science, Chulalongkorn University, Bangkok Metropolis 10500

ภาควิชาสูติศาสตร์-เจนูเวรีวิทยาและวิทยาการสืบพันธุ์ คณะสัตวแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย กท. 10500

² Armed Forced Research Institute of Medical Sciences - US Component, Rajvithi Road, Bangkok Metropolis 10400

สถาบันวิจัยวิทยาศาสตร์การแพทย์ทหาร ฝ่ายอเมริกัน ถนนราชวิถี กท. 10400

³ Department of Pathology, Faculty of Veterinary Science, Chulalongkorn University, Bangkok Metropolis 10500

ภาควิชาพยาธิวิทยา คณะสัตวแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย กท. 10500

บทคัดย่อ

ลูกควายปลัก อายุ 3 เดือน หนักประมาณ 40 กก. เป็นของเกษตรกร จังหวัดบุรีรัมย์ ตายหลังจากบ่อนยา บีปเปอร์ราซีนไดไฮโดรคลอไรด์ ผลจากการผ่าซาก พบมีการตกเลือดอย่างมากในกระเพาะและลำไส้ และมีพยาธิ *Neoscaris* จำนวนมาก นอกจากนี้ตับมีการอักเสบมาก ทั้งนี้เพราะพยาธิใบไม้ในเลือด

Abstract

A buffalo calf aged 3 months old weighed 40 kg belonged to a farmer, Buri Ram Province, died after oral treatment with piperazine dihydrochloride. Post mortem examin-

ation revealed extensive haemorrhagic enteritis, severe parasitism of *Neoascaris* spp. and severe hepatitis due to *Schistosoma* infestation.

Introduction

Buffalo calf mortality accounted to be 14–27 percent, the major causes were mismanagement, poor feed and feeding to both dam and calf as well as problem of parasitism (Usanakornkul *et al.*, 1979). The same authors reported that *Neoascaris* spp. was one of the major intestinal parasite affected to the very young calves up to one month old, treatment is effective through double doses of piperazine 2 weeks interval at the age of 15 and 30 days old. We have not encountered reports about schistosomiasis in swamp buffalo in Thailand yet. The present report described the possible cause of the death of the calf of which Schistosomiasis was suspected.

Materials and Method

Case history: A 3 months old male buffalo calf weighed 40 kg belonged to a farmer, Buri Ram Province. After 1.5 h of trekking to receive deworming with piperazine dihydrochloride oral route, half an hour later the animal succumbed and lay down in exhaustion stage. Emergency treatment was carried out, the animal recovered, tried to walk but later on lay down again and died after 1.5 h later.

Results

Post mortem examination revealed some vital findings, namely :

- 1) Extensive haemorrhagic enteritis extending from stomach to large intestine.
- 2) Severe parasitism with *Neoascaris* spp. were found in intestinal lumen.
- 3) Extensive fibrinous and fibrotic hepatitis as shown in figures 1.

The cause was identified as *Schistosoma spindale* which were found extensively in hepatic tissue (figure 2). Numerous eggs of the parasites were presented in the faeces of this buffalo (figure 3). Affected organs were submitted to histopathological study.



Figure 1. Fibrinous and fibrotic perihepatitis with distention of gall bladder (arrow)

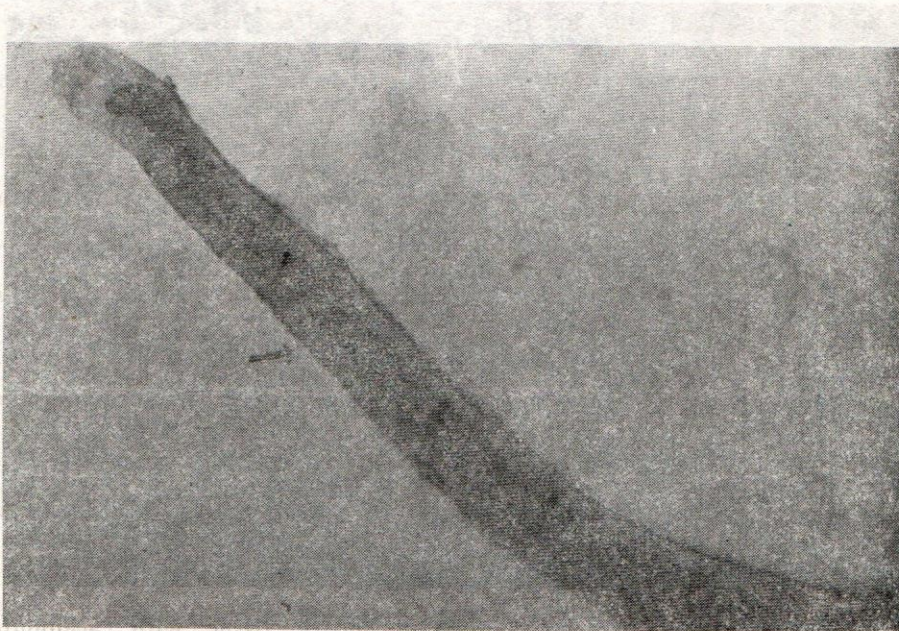


Figure 2. Female *Schistosoma spindale* from hepatic tissue (x 100)

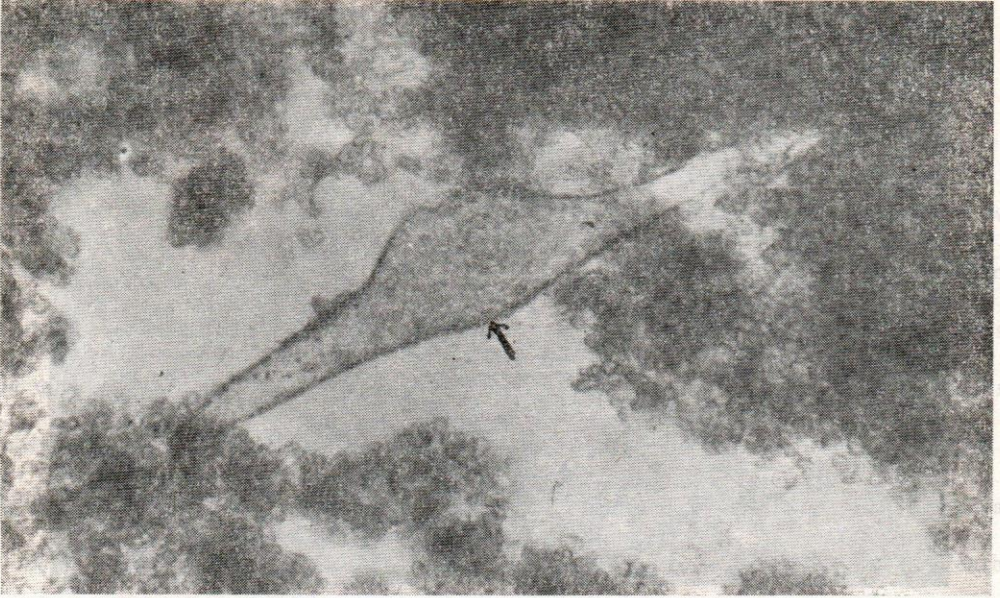


Figure 3. An egg of *Schistosoma spindale* (arrow) from the feces of swamp buffalo calf (x 100)

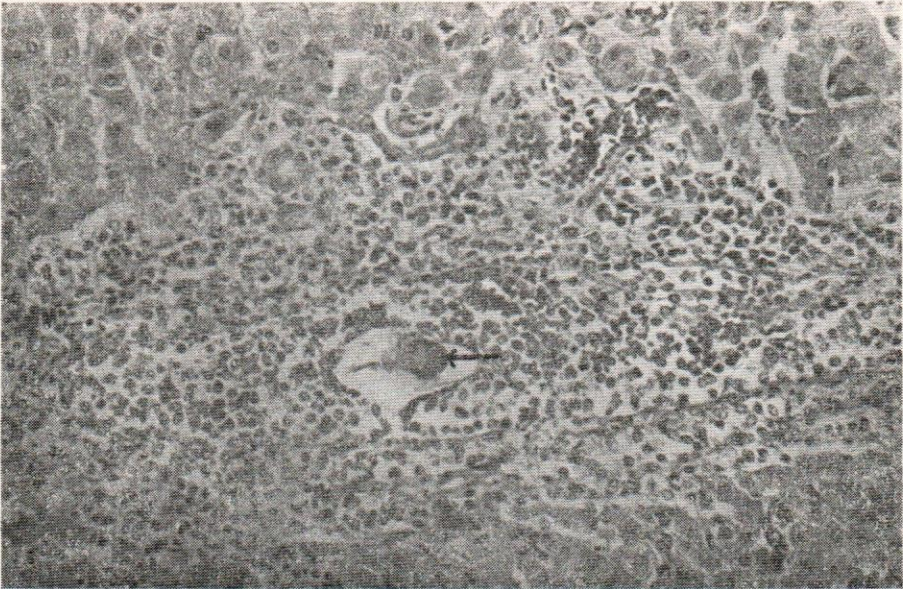


Figure 4. Cross section of parasite (arrow) in hepatic tissue with accumulation of macrophages, lymphocytes, eosinophils and erythrocytes at the affected area (x 100)

Histopathologic findings : Cross sections of parasites were found in the portal area of hepatic tissue. Numerous macrophages, lymphocytes, eosinophils and erythrocytes accumulated around the parasitic sections (figure 4). No remarkable changes in hepatic cell cords were observed. Congestion of lymph-node and intestine were evidence.

Discussion

The present case, a male buffalo calf died 3 hours after receiving a drenching dose of piperazine dihydrochloride.

The vital organs: liver was damaged as parasites *Schistosoma spindale* which were commonly found in the North East of Thailand (Harinasuta *et al.*, 1964) invading the tissue. Parasitic hepatitis indicated heavy infestation of this blood fluke. In mild infestation the hepatic lesions were not seen (Harinasuta *et al.*, 1965). In addition, haemorrhagic enteritis was very extensive, this damage might be due to penetration of the spinous ends of the eggs of the parasite (Dunn, 1969). Furthermore, animal was heavily infested with ascarids. The causes of the death of this buffalo might be due to a combination of both parasites which rendered poor health and damaged to the vital organs. After a long summer journey and piperazine treatment would further induced more stress to the animal. This situation would allow effect more pronounce and death to the animal.

References

- Dunn, A.M. 1969. In : Veterinary Helminthology. 1st edition. William Heinemann Medical Books, London.p. 161.
- Harinasuta, C. and Kruatrachue M. 1964. *Schistosoma* in Thailand. Transactions of the Royal Society of Trop. Med. Hyg. 58 (2) : 195.
- Harinasuta, C., Kruatrachue, M. and Sornmani, S. 1965. A study of *Schistosoma spindale* in Thailand. J. Trop. Med. Hyg. 65 (5) : 125-127.
- Usanakornkul, S., Harbers, F. and Rimkeeree, K. 1979. Report on Feeding and Management of Breeding buffaloes. I. Improve management to reduce mortality and increase growth rate. Annual Report. NBRD. 136-144.