

การระบาดของอหิวาต์สุกร ในภาคตะวันออกเฉียงเหนือของประเทศไทย

(Further outbreaks of hog cholera in Northeastern Thailand)

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ศูนย์วิจัยและชันสูตรโรคสัตว์ภาคตะวันออกเฉียงเหนือ ต. ท่าพระ
จ. ขอนแก่น กองวิชาการ กรมปศุสัตว์

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Abstract

During the period of August 1978 to September 1979, 14 major outbreaks of hog cholera in six provinces of Northeastern Thailand (Buriram, Sakonkorn, Ubol-rachathani, Roi-et, Mahasarakam and Khon Kaen) were confirmed by the Veterinary Diagnostic Laboratory Center, Tha Phra Village, Khon Kaen Province. Postmortem examinations were conducted in 102 dead or sick animals and in 15 suspected animals laboratory examinations were carried out.

The final confirmation of hog cholera was based on disease history, clinical signs, postmortem findings, isolation of the virus, inoculation of susceptible animals and differential diagnostic procedures.

อหิวาต์สุกรเป็นโรคระบาดที่ยังคงมีความสำคัญเป็นอันดับหนึ่งในบรรดาโรคอื่น ๆ ของสุกร ซึ่งทำความสูญเสียแก่อุตสาหกรรมการเลี้ยงสุกร ในประเทศไทยอย่างใหญ่หลวง ความสำคัญของโรคนี้อาจเริ่มมีมาเรื่อย ตั้งแต่เริ่มสงสัยว่ามีโรคนี้ระบาดใน

different ages, including cattle and sheep. These animals had been continuously grazing on the infected pastures for several years. The parasitic infections were naturally acquired, and none of the buffaloes had been given anthelmintic treatment.

Single therapeutic doses of nitroxylnil (34 per cent) were given to the animals at the rate of 10 milligrams per kilogram of body weight. Individual doses of the drug were measured at the time of treatment. Nitroxylnil was injected subcutaneously on the left side of the neck of the animal. None of the treated buffaloes was fast. Each buffalo was held in a concrete-floored stall and was fed with hay and water to maintain a moderate of growth.

Pretreatment and posttreatment worm egg counts were made on the feces of all buffaloes. Worms passed with feces of each buffalo were counted. The animals were killed and necropsied on seventh day after treatment to search for liver flukes and other nematodes. Details of the sampling and counting procedures of parasites in the feces and the gastrointestinal tracts have been outlined (Drudge et al, 1963, Sukhapesna, 1977).

Results

① Side effects or toxicosis from nitroxylnil were not seen in any of the treated buffaloes.

② Anthelmintic activity of nitroxylnil in reducing liver fluke eggs is presented in Table 1. The drug was highly effective (100 per cent) in reducing the eggs in 7 days posttreatment.

Anthelmintic activity of nitroxylnil against liver flukes and other nematodes is presented in Table 2. The drug was highly effective (100 per cent) against mature liver flukes. No worm was found in the bile ducts or gall bladders from the animal numbers 8, 12, 14 and 22. while 5 mature liver flukes were found in the bile duct of the animal number 18. However all worms were dead and disintegrated. It was found that mature liver flukes were eliminated from the treated buffaloes within 24 to 48 hours posttreatment. Most of eliminated worms were apparently normal. Only a few worms were abnormal in appearance, *Fasciola gigantica* was the species of liver fluke found in the present study.

Nitroxylnil was highly effective against some gastrointestinal nematodes (Table 2). It was 92.3 per cent effective against mature *Mecistocirrus digitatus*, *Haemonchus placei* and *Oesophagostomum radiatum* were present in relatively small

Table 1. Anthelmintic activity of nitroxylin in reducing liver fluke eggs.

Buffalo Number	Eggs per gram		Egg Reduction Rate (Per Cent)
	Pretreatment (Day 0)	Posttreatment (Day 7)	
8	34	0	100
12	39	0	100
14	48	0	100
18	43	0	100
22	52	0	100

Table 2 Anthelmintic activity of nitroxylin against mature liver flukes and other nematodes.

Buffalo Number	Number of parasite			
	Trematode <i>F. gigantica</i>	Nematode		
		<i>H. placei</i>	<i>M. digitatus</i>	<i>O. radiatum</i>
PARASITES ELIMINATED IN FECES POSTTREATMENT				
8	32	2	31	10
12	38	0	37	0
14	64	4	45	8
18	74	0	52	6
22	58	8	33	2
PARASITES RECOVERED AT NECROPSY				
8	0	0	0	0
12	0	0	0	0
14	0	0	0	0
18	5	0	4	0
22	0	0	0	0
PERCENTAGE OF EFFICACY				
8	100	100	100	100
12	100	100	100	100
14	100	100	100	100
18	100	100	92.3	100
22	100	100	100	100

*Parasites were dead and disintegrated.

$$\text{Per cent removal} = \frac{\text{Total number of worms recovered from feces}}{\text{Total number of worms recovered from feces and necropsy}} \times 100$$

numbers in these test buffaloes. However, nitroxylinil was highly effective (100 per cent) for the removal of mature *H. placei* and *O. radiatum*. All nematodes were also eliminated during the first 48 hours posttreatment.

Discussion

The result of this experiment indicates that nitroxylinil at the dose rate of 10 milligrams per kilogram is a suitable anthelmintic because no clinical signs of toxicosis was seen from any of the treated buffaloes. Thus, it supported other findings (Roy and Reddy, 1969; Sukhapesna and Chansri, 1976; Sukhapesna, 1976, 1977 and 1979).

Nitroxylinil was highly effective in reducing *Fasciola gigantica* eggs. This was proven by the fact that nitroxylinil was 100 per cent effective in reducing the eggs in 7 days posttreatment in all treated buffaloes. Similar results against *Fasciola* eggs were also reported by Roy and Reddy (1919) and Sukhapesna (1976 and 1979).

Nitroxylinil was highly effective against mature *F. gigantica* because the drug was 100 per cent effective in removing or killing the flukes from the treated buffaloes. There were 5 mature *F. gigantica* found in the bile ducts of one treated buffalo, however these flukes were dead and disintegrated. In this case, the wall of the bile duct was calcified and formed a complete cast in the bile duct. Therefore, the flukes could not eliminated from the bile duct of the liver. Other investigators, Roy and Reddy (1969) and Sukhapesna (1970) also reported similar results against *F. gigantica* in livestock.

Nitroxylinil was also effective against some gastro intestinal nematodes. This was evident from the fact that the drug was 92.3 to 100 per cent effective for the removal of *H. placei*, *M. digitatus* and *O. radiatum*. Therefore, this result was in accord with the other findings (Anonymous, 1970; Sukhapesna, 1977 and 1979) that nitroxylinil was highly effective against *H. contortus*, *H. placei*, *M. digitatus*, *Bunostomum phlebotomum*, *O. radiatum* and *Ancylostoma* spp.

Summary

Anthelmintic activity of a single subcutaneous dose of nitroxylinil at the rate of 10 milligrams per kilogram was determined by the critical test method against *Fasciola gigantica* in 5 swamp buffaloes.

Nitroxynil was 100 per cent effective against mature *F. gigantica* and it was 92.3 to 100 per cent effective against mature *Haemonchus placei*, *Mecistocirrus digitatus* and *Oesophagostomum radiatum*.

References.

- Anonymous. 1970 : Trodax. May & Baker Ltd. Leaf. 12 pp.
- Drudge, J.H., J. Szanto, Z.N. Wyant and G. Elam 1963 : Critical tests of thiabendazole as an anthelmintic in the horse. *Am. J. Vet. Res.* 24 (103) : 1217 - 1222.
- Roy, R.M., and N.R. Reddy. 1969 : Studies on the activity of nitroxynil against *Fasciola gigantica* in naturally infected buffaloes, cattle and sheep. *Vet. Rec.* 83 : 85 - 87.
- Sukhapesna, V., and K. Chansri. 1976 : Comparative efficacy of ranide and trodax against *Fasciola* spp. in cattle. *Thai J Vet. Med. Assoc.* 6 (2) : 52-56.
- Sukhapesna, V. 1976 : Anthelmintic activity of radoxanide and nitroxynil against *Fasciola* spp. resistant strain. *J. Agric. Sci.* 9 (6) : 579 - 583.
- Sukhapesna, V. 1977 : Anthelmintic activity of nitroxynil against hook worms in dogs. *Thai J. Vet. Med. Assoc.* 7 (4) : 260 - 263.
- Sukhapesna, V. 1977 : Anthelmintic activity of oxyclozanide against *Fasciola gigantica* in cattle. *Thai Vet. Med. Assoc* 28 (2) : 1 - 7.
- Sukhapesna, V. 1978 : Anthelmintic activity of radoxanide and nitroxynil against *Fasciola* spp. in buffaloes. *Thai J. Agric. Sci* 11 (1) : 31 - 36.
- Sukhapesna, V. 1979 : Anthelmintic activity of nitroxynil against *Fasciola gigantica* in cattle. Presented at the sixth conference of Veterinary Science under the auspices of the Thai Vet. Med. Assoc., Bangkok, 3 - 4 December 1979.
- Sukhapesna, V. 1980 : Anthelmintic activity of oxyclozanide and hexachlorophene against *Fasciola* spp. in buffaloes. *Thai J. Vet. Med.* 10 (2) : 91 - 101

บทคัดย่อ

ประสิทธิภาพของยาถ่ายพยาธิไนโตรโซนิลต่อพยาธิใบไม้ *Fasciola gigantica*

ในกระบือปลัก

วิจิตร สุขเพ็ญ

ศึกษาประสิทธิภาพของยาถ่ายพยาธิไนโตรโซนิล ขนาด 10 มิลลิกรัมต่อน้ำหนัก 1 กิโลกรัม ด้วยวิธี Critical test ต่อพยาธิใบไม้ *Fasciola gigantica* ในกระบือปลักจำนวน 5 ตัว

ยาถ่ายพยาธิไนโตรโซนิลสามารถขับพยาธิใบไม้ตัวแก่ *F. gigantica* ได้หมด (100 เปอร์เซ็นต์) และไนโตรโซนิลมีประสิทธิภาพสูงมาก (92.3 ถึง 100 เปอร์เซ็นต์) ในการขับพยาธิตัวแก่ *Haemonchus placei*, *Mecistocirrus digitatus* และ *Oesophagostomum radiatum*

การให้ยาถ่ายพยาธิไนโตรโซนิลในขนาด 10 มิลลิกรัมต่อน้ำหนัก 1 กิโลกรัม สัตว์จะไม่มีอาการผิดปกติหรือเป็นพิษเกิดขึ้น

โรงงานผลิตเวชภัณฑ์

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