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Endoscopic retrieval of *Pendastomid* worm occlusion in a rescued Indian Rat Snake *(Ptyas mucosa)*

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Abstract

A rat snake was presented with the history of rescue from a rural household. It was said to have some hit injury and was dull and reluctant to move. Bubbling of nasal discharge from the nostril, open mouth breathing and copious salivation were noticed. On auscultation deep breathing was observed; respiratory distress was noticed. The snake was medicated with ketamine hydrochloride and Diazepam and prepared for endoscopic assessment. A 2.8mm thin flexible endoscopy was used to assess the trachea, lungs and air sac area. In the middle of respiratory tract, occlusion with Pentastomid worm was noticed which was retrieved using grasping forceps. Dextrose Normal Saline was administered orally using feeding tubes and ivermectin was given subcutaneously. The snake recovered uneventfully after endoscopy and later rehabilitated and released in to a non-human habitat area.

Keywords: Indian rat snake, Flexible Endoscopy, Pentastome

Reptiles are susceptible to various infectious and parasitic diseases that can compromise their health in both wild and captive settings (Divers and Stahl, 2019). Pentastomiasis, caused by tongue worms (Pentastomida) is a significant parasitic disease in snakes, affecting their respiratory tract and occasionally other tissues. This article highlights the significance of endoscopic diagnosis of pentastomiasis in a rat snake.

A injured Indian Rat Snake (*Ptyas mucosa*) was presented by the Forest Department, Pattukottai Division to Veterinary College and Research Institute, Orathanadu, Thanjavur. It was dull and reluctant to move. Bubbling nasal discharge from the nostrils, open-mouth breathing, copious salivation and respiratory distress were observed. External injuries were noted in the proximal third region (Fig.1). Respiratory rate of 32 breaths per minute, heart rate of 84 beats per minute, and cloacal temperature of 34.2°C were recorded. Haematological and biochemical analyses revealed no significant abnormalities (Table 1). Electrocardiographic assessment was performed and showed no abnormalities. Cloacal swabs were examined for parasitic ova, but no parasitic infestation was detected. Radiographic assessment showed no remarkable findings. The snake was manually restrained, and anaesthesia was induced using Ketamine (@ 20 mg/kg IM) and Diazepam (@ 1 mg/kg IM). A 2.8mm flexible endoscopy system (URF-P5 OES Flexible Uretero-Reno Fiberscope, Olympus) was gently introduced into the glottis and advanced under direct visual guidance.

The trachea, lungs, and air sacs were well visualized and appeared normal, except for a few hyperaemic spots. In the middle respiratory tract, a parasitic worm was visualized. Using grasping forceps, the parasite was successfully retrieved and identified as an adult pentastomid worm (*Porocephalus crotali*). Dextrose Normal Saline and B-complex syrup were administered using a feeding tube for three days. Subcutaneous administration of Ivermectin at 0.2 mg/kg was given. The snake showed progressive recovery and was released to a non-human habitat.

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Table 1: Haematology and serum biochemical values of the rescued Indian rat snake

Haematology parameters		Serum biochemical parameters	
Haematocrit	34 %	Total protein	6.24 g/dl
Haemoglobin	8.6 g/dl	Albumin	2.11 g/dl
Erythrocyte	0.91 X 10^6 / µl	Glucose	84 mg/dl
Leukocyte	9.2 X 10^3/ µl	AST	124 IU/L
Heterophils	56 %	ALT	40 IU/L
Lymphocyte	37%	ALP	110 IU/L
Monocyte	1%	CK	336 IU/L
Eosinophils	6%	BUN	7 mg/dl
Basophils	0	Creatinine	0.7 mg/dl

Fig.1. The rescued snake (A) with the external injuries at proximal third region (B)

Fig.2. Endoscopic examination in the rescued Indian rat snake.

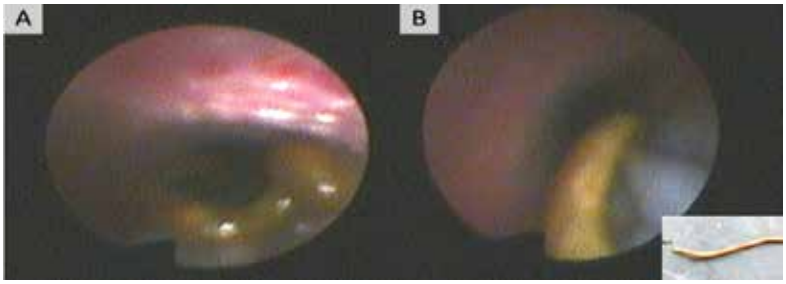

Fig.3. Endoscopic view performed in Indian rat snake
A: Hyperaemic spots with Pentastomid worm occlusion in the middle.
B: Endoscopic retrieval of Pentastomid worm occlusion in the rescued Indian rat

Reptiles in the wild commonly harbour parasites, with pentastomes being a frequent finding (Rataj *et al.,* 2011). Although pentastome infections are often asymptomatic, heavy infestations can lead to clinical disease or even death. Diagnosis is typically achieved through the detection of characteristic calcified larvae on radiographs, post-mortem examination or repeated faecal and lung lavage tests (Drabick, 1987). Divers (2010) described an endoscopic approach to the lungs through the trachea. In this study, a 2.8 mm thin flexible endoscope with a working length of 70 cm provided significant clinical advantages by allowing near-complete visualization of the respiratory tract. This study highlights the effectiveness of non-surgical approaches, particularly flexible endoscopy, in diagnosing and extracting adult pentastomes from the respiratory tract of a snake.

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References

Divers, S.J. 2010. Reptile diagnostic endoscopy and endosurgery. *Vet Clin Exot Anim* **13**: 217–242.

Divers, S.J. and Stahl, S.J. 2019. *Mader's reptile and amphibian medicine and surgery*. 3rd edn., Elsevier, St Louis Missouri, pp. 363.

Drabick, J.J. 1987. Pentastomiasis. *Rev Infect Dis* **9**: 1087–1094.

Rataj, A.V., Lindtner-Knific, R., Vlahovic, K., Mavri, U. and Dovc, A. 2011. Parasites in pet reptiles. *Acta Vet Scand* **53**: 33.

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