

Gross morphological studies on the Spleen of Clouded leopard

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Abstract:

The present study was conducted on the spleen of one female Clouded leopard that was brought for postmortem to the department of Veterinary Pathology, College of Veterinary Sciences and Animal Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram. The spleen of Clouded leopards was grayish in color and was in the form of a large, curved, flattened, elongated structure. It was situated completely within the thoracic cavity. It was attached to the stomach by the gastrosplenic ligament and showed two surfaces, two borders and two extremities. The length, average width and weight were measured to be 12.4 cm, 2.64 cm and 21.12 gms respectively.

Key words: Clouded leopard, spleen and gross morphology

Introduction:

Clouded leopards (*Neofelis nebulosa*) are a medium sized cat primarily living in the tropical rain forest. Historically their range covers most of Southeast Asia

from Nepal and southern China through Thailand, Indonesia and Borneo. They are usually 25-40 cm tall and are 1.2 t-1.8 m long, almost half of which is the tail. The males tend to be slightly larger and weigh up to 23 kg while female are about 16 kg. Genetic research has shown the clouded leopard to be more closely related to the larger cat species than small cats and so Clouded leopards are considered a member of the Pantherinae- a subfamily of the felidae that also includes the lions, tigers, jaguars, leopards and snow leopards. Due to poaching and loss of habitat the population of Clouded leopard is decreasing day by day and so this cat is listed as Vulnerable in the IUCN Red Data Book, as Appendix I species under CITES and Endangered under the United States Endangered Species Act. Keeping this facts in mind these study was carried out to create a baseline data on the gross morphology and morphometry of the spleen of Clouded leopard.

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Material and methods:

The present study was conducted on the gross morphology of the spleen of one female Clouded leopard that was brought for postmortem to the department of Veterinary Pathology, College of Veterinary Sciences and Animal Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram. The carcass was carefully opened to record the insitu position and attachments of various ligaments of the spleen to different organs. The spleen was then carefully collected from the carcass and various gross and biometrical parameters viz. length, width, thickness and weight of the spleen were recorded.

Results and discussions:

The spleen of Clouded leopards was grayish in color (Nickel, 1981) and was in the form of a large, curved, flattened, elongated structure showing a narrow curved dorsal halve and wide almost straight part (Fig: 1) which was as reported by Getty (2012) in cat. It was situated completely within the thoracic cavity lying parallel to the greater curvature of the stomach and enclosed within the descending limbs of greater omentum. Similar findings were also

reported by Nickel *et al* (1981) where he reported that in canines and felines when the stomach was empty the spleen lied completely within the thoracic cavity. It was attached to the stomach by the gastrosplenic ligament and showed two surfaces, two borders and two extremities which were in accordance to the findings of Konig (2009). The parietal or the diaphragmatic surface was slightly convex and remained attached to the diaphragm. The visceral surface was slightly concave and showed the hilus along its length which gave attachment to the gastrosplenic ligament (Fig: 1) and served as a gateway for different vessels and nerves entering or exiting the spleen. The hilus was in the form of a longitudinal ridge and almost equally divided the visceral surface into a cranial gastric surface and a caudal intestinal surface for the attachment of the stomach and the intestines respectively (Fig: 1). The two borders were cranial gastric border and caudal intestinal border. Konig (2009) also reported similar findings in cat. The gastric border was concavo and deeply notched at its proximal 1/3rd where it formed a sharp curvature. The intestinal border was convex along its length thereby making the spleen narrow and curved dorsally and wide and straight ventrally. The two extremities were thin dorsal extremity and thick ventral extremity (Fig: 1). The dorsal extremity was narrower and deeply curved and was fitted into the crus of the diaphragm while the ventral extremity was wider and its free end lied over the urinary bladder. Such findings were also reported by Crouch (1969) where he reported that in cat the free ventral end of the spleen lies over the urinary bladder.

The length of the spleen of Clouded leopard along its hilus was measured to be 12.4 cm while its average width was recorded to be 2.64 cm. The width of the spleen near its ventral extremity was measured to be 3.60 cm while its width near its curved dorsal extremity was measured to be 1.46 cm. The weight of the spleen was recorded to be 21.12 gms while its thickness varied between 1.18 cm to 7.80 cm and its average thickness was recorded to be 1.03 cm. These biometricals data were within the range given by Nickel *et al* (1981) where he reported that the spleen of cat had a length between 11.4 to 18.5 cm. widths between 1.4 to 3.1 cm. and weight between 5.5-32 gms.

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LEGENDS TO THE FIGURES

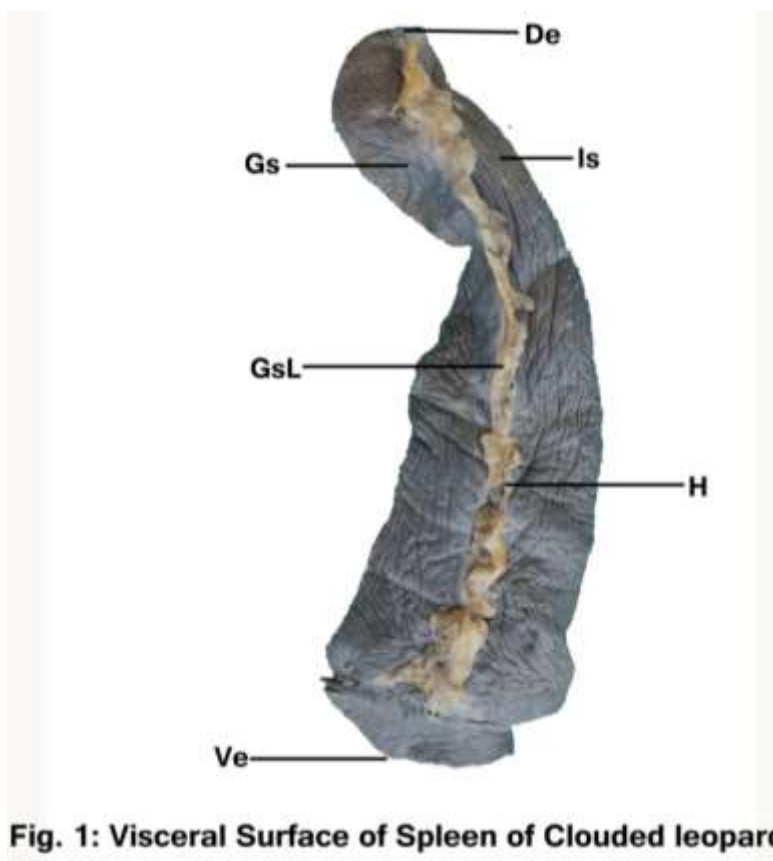


Fig 1: Visceral surface of the spleen of Clouded Leopard showing Dorsal extremity (De), Ventral extremity (Ve), Intestinal surface (Is), Gastric surface (Gs), Gastrosplenic ligament (GsL), and Hilus (H).