Morphometry of Spleen in White Yorkshire Pig (Sus scrofa)

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ABSTRACT
The present study was conducted on 6 apparently healthy adult Large White Yorkshire pig (Sus scrofa) of either sex. For the gross anatomical studies the measurements for various physical parameters like weight, length, width and volume were carried out. The correlation between each parameter was calculated at 1% level of the significance for conclusion.

Key words: Anatomical parameters, White Yorkshire pig

INTRODUCTION
Yorkshire, also called Large White or Large White Yorkshire, breed of swine produced in the 18th century by crossing the large indigenous white pig of Northern England with the smaller, fatter, white Chinese pig. Large White swine can be distinguished by their long, bony legs, erect ears, long length, overall large frame size, white color and pink skin. For this to understand the real worth of this animal and explore the productive potential for criteria of adaptability as well as to elucidate some physiological mechanisms in the Large White Yorkshire breed of pig and establishment of their own norms becomes very important in the field of veterinary science1.

MATERIALS AND METHODS
The present study was conducted on 6 apparently healthy adult Large White Yorkshire pig (Sus scrofa) of either sex. The spleens of the freshly slaughtered animals were procured from Municipal slaughterhouse, Bikaner. For the gross anatomical studies the measurements for various physical parameters like weight, length, width and volume were carried out. Weight was taken with the help of electric weighing balance, volume was measured by water displacement method by measuring cylinder and length and width were measured by measuring scale at the widest portion of the organ.

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Thickness was measured by vernier calipers at three different regions. The correlation between each parameter was calculated at 1% level of the significance for conclusion.

RESULTS AND DISCUSSION

Measurements

i) Weight
In present study, the average spleen weight was recorded as 128.55± 4.764 g (Figure 2). On the contrary it was 350 g in pig according to Getty² while 1 lb. in camel Hegazi³, 1 kg in ox and 1-1.2 kg in horse according to Raghavan⁴. 100gm in sheep [2], 46-133 g in sheep⁵ and 65-70 g in goat⁶.

ii) Volume
During present study, the volume of spleen ranged from 119.8 ml to 150 ml with an average of 131.87 ml (Figure 1), whereas, the average volume of spleen in Marwari goat was 36.974 ml according to Devi⁷.

iii) Length
The average length of the spleen was recorded as 29.15 cm at the longest portion with a range of 23.1 cm to 36 cm (Figure 3). On the contrary, it was 60 cm in pig according to Getty¹. According to Nickel et al.⁵ and Khan et al.⁶ the length of the spleen was 9.4-12.4 cm in goat and 8.5 to 14 cm in sheep, respectively, whereas Awal et al.⁸ reported the length of spleen to be 9.75 cm in indigenous sheep. Getty² and Raghavan⁴ reported length of spleen as 50 cm in horse and ox.

iii) Width
The width of the spleen during this investigation in the pig was widest at the middle aspect than the dorsal and ventral aspects (Figure 3). The average width of the spleen at dorsal, middle and ventral aspects was 1.386±0.139 cm, 6.25±0.107 cm and 2.701±0.107 cm respectively, which was not in accordance to Getty² in pig, 8-10 cm. The width of the spleen at the widest place ranged between 4.2 cm to 7.3 cm as was described by Nickel et al.⁵, Khan et al.⁶ and Devi⁷ in the Marwari goat. According to Awal et al.⁹, the width was 6.91 cm in indigenous sheep.

iv) Thickness
The average thickness of the dorsal, medial and ventral aspect of spleen was 0.595±0.0301 cm, 1.213±0.063 cm and 0.448± 0.0151 cm respectively. Awal et al.⁸ described that the average thickness of spleen of indigenous sheep was 0.810± 0.09 cm while Awal et al.¹⁰ reported 1.85 cm in indigenous cattle.
REFERENCES


