

Abstract:

The paired lateral abdominal veins (LAV) provide alternative venipuncture sites in grey nurse sharks (*Carcharias taurus*, Rafinesque 1810) and their efficacy was assessed using morphometrics, necropsies, ultrasound-guided blood sampling and by comparing serum biochemistry between the LAV and caudal vein (CV) with values from the latter published previously. The mean length of the CV was 2.8% of total length (TL) whereas each LAV was 22.4% of TL and, when combined, was approximately 16 times longer than the CV. The mean tissue thickness overlying each LAV increased significantly ($p < .001$) with increasing TL and ranged from 3.5 to 33.8 mm in the smallest to largest shark. The mean internal diameter of the paired LAV also increased significantly ($p < .001$) with increasing TL and was equal to or exceeded the CV. Experienced SCUBA divers captured 56 free-living grey nurse sharks and 46 healthy animals were sampled for blood from the LAV and CV with minimal risk to the animals or staff. Venipuncture of the LAV ($n = 16$) was easily accomplished using ultrasound guidance with a 38 mm/18-gauge needle, whereas standard methods were used with the CV ($n = 30$). Serum biochemistry was compared (t-tests) and none of the biochemical analytes differed significantly between the LAV and CV. The paired LAV produced representative blood samples and could also be used for fluid therapy and/or intravenous anaesthesia as has been done in other sharks. It is recommended that veterinary/husbandry staff familiarize themselves with the paired LAV and consider their use in the future.

Reference:

Otway, N. (2020) Ultrasound-guided sampling of the lateral abdominal vein in the grey nurse shark (*Carcharias taurus*, Rafinesque 1810). *Veterinary Medicine and Science*. April 26th. doi: 10.1002/vms3.272. (Epub ahead of print).

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