Ultrasound guided transabdominal plane block in pigs: a cadaveric pilot study

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The aim of this study was to develop an ultrasound (US)-guided transabdominal plane (TAP) block in pigs.
Fifteen cadavers (14 female and 1 male, 30 hemi-abdomens, mean ± standard deviation 35.6 ± 5.2 kg) were included. After studying the abdominal wall innervation in 2 hemi-abdomens, a pilot study (4 hemi-abdomens) was performed to establish the injection points. Subsequently, a two- and three-point injection technique (14 and 10 hemi-abdomens) were performed using 0.3 mL kg^{-1} hemi-$abdomen^{-1}$ of 1% methylene blue in lateral recumbency under US guidance (Figure 1). Nerve staining was considered successful if methylene blue was deposited on the nerve over a distance of >1 cm during dissection.

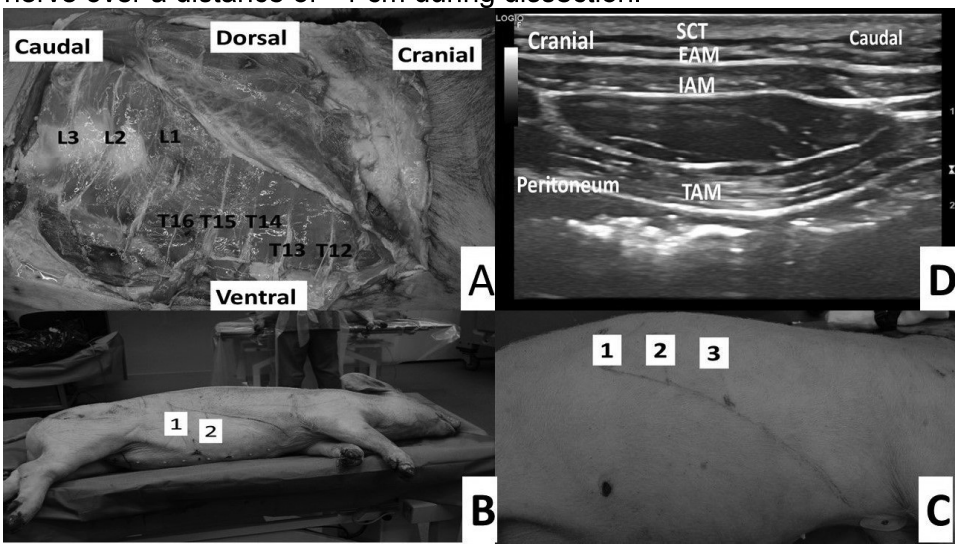

Figure 1: A: Anatomical dissection B: Two point injection: caudal and cranial injection respectively at the end and at 2/3 of the rib arch C: Extra injection between the cranial and caudal injection point D: US-image post-injection.
Abbreviations: SCT= skin and subcutaneous tissue TAM= transverse abdominal muscle IAM/EAM= internal/external abdominal muscle.

Nerve	***Two-point technique (%)***	***Three-point technique (%)***
T12	21.4	40
T13	28.6	90
T14	50	50
T15	57.1	80
T16	50	80
L1	92.8	50
L2	78.6	30
L3	21.4	0

Table 1: Comparing nerve staining upon dissection with the different techniques.