

T400-Series Surgical Protocol

Horse Colic Artery: Chronic Blood Flow Measurement

APPLICATION BASICS

Site:	Colic branch, ileo-colic artery
Species:	Horse (Pony)
Weight:	160 kg
Duration:	Chronic
Vessel Diameter:	5 - 7 mm

PROBE

Size:	8 mm (side exit)
Reflector:	L with sliding cover
Cable Length:	60 cm
Catalog #:	MC-8PSS-LS-WC60-CRS10-GC

FLOWMETER

TS420 Perivascular Module

Flow Ranges Observed

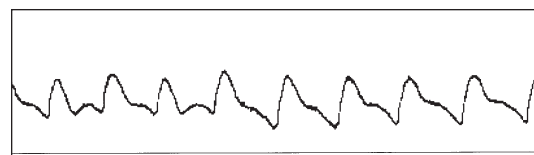


Fig. 1: Colic branch of ileo-colic arterial flow while pony was at rest was 1.5 L/min. This increased up to 3.0 L/min during episodes of colic.

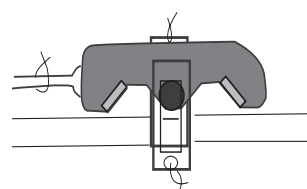


Fig. 2: Flowprobe sutured to colic branch of ileo-colic artery.

Application

This protocol was developed to study the pathogenesis of equine colic. In these investigations, a fistula in the left ventral colon, near the fusus coli is often useful. This is performed in two stages: a colonopexy is followed by fistulation 7-10 days later. Colic arterial flow has also been used to evaluate the effects of serotonin, substance P and alpha 2 adrenergics on the equine large colon.

Surgical Protocol

Install a silicone sleeve over the cable where the cable will pass through the skin. Premedicate with 10,000 U/kg penicillin. Anesthesia is induced with guaifensin (10 mg/kg, IV) and thiopental (4.4 mg/kg, IV) and maintained on halothane and oxygen.

Place the horse in right lateral recumbency. Make a skin incision parallel to the last rib. Identify the ventral and dorsal colic arteries in the region of the sternal flexure. Both arteries are accessible and

(Continued on next side.)

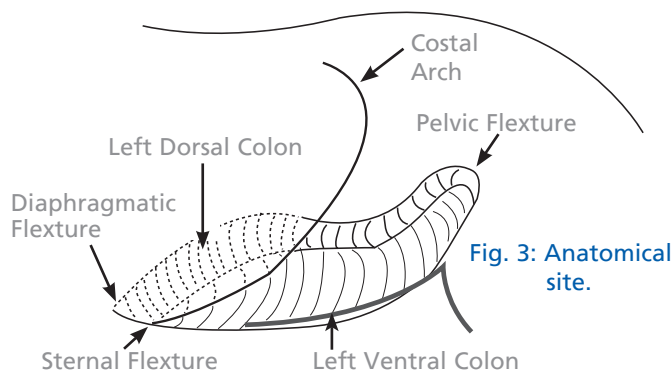


Fig. 3: Anatomical site.

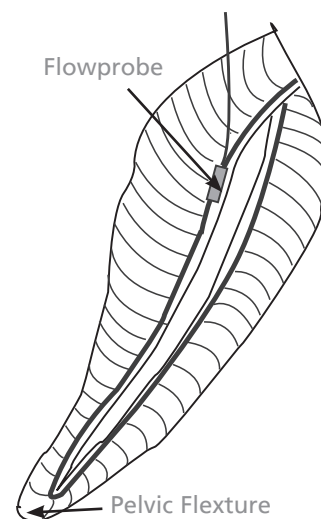


Fig. 4: Flowprobe on colic branch of ileo-colic artery.

Horse Colic Artery: Chronic Blood Flow Measurement cont.

Surgical Protocol cont.

Flowprobes may be implanted on wither or both. Choose a location with enough loose connective tissue to cover the Probe and carefully dissect out the desired artery from the mesocolic bands, taking care to avoid nerve fibers. Place the Probe around the artery. Close the slide and secure it. Place a single interrupted suture in each of the bracket eyelet holes. Fold a flap of connective tissue over the Probe and suture it in place. Make a stab incision in the abdominal wall dorsal to the original incision. Continue the exit path with a subcutaneous tunnel to a high exit incision caudal to the 18th rib. Place a horizontal mattress suture around the cable and sleeve to keep the cable from sliding back and forth. Tape a sterile gauze pad over the exit site.

Close the peritoneal and muscle incisions with interrupted chromic gut sutures. Appose the subcutaneous tissues with a simple continuous 2-0 synthetic absorbable suture. Close the skin with a nonabsorbable synthetic suture in a Ford interlocking pattern. Apply an Elastoplast gauze bandage over the main incision. Administer penicillin-streptomycin IM postoperatively.

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