Equine splenectomy is not commonly performed, however, the procedure has been accomplished for resolution of clinical problems and for research purposes.

The main advantage of a laparoscopic assisted splenectomy over the traditionally performed laparotomy techniques is improved viewing and facilitated transection and ligation of vascular and ligamentous structures associated with the spleen.

Splenectomy has been performed experimentally in horses to study the cardiovascular and reticuloendothelial systems. Clinically, splenectomy was required in cases of idiopathic splenomegaly causing recurrent colic, splenic rupture causing intra-abdominal haemorrhage in 2 foals, and splenic infarction.

Surgical procedure. The entirety of the left flank should be prepared for surgery extending from the transverse process to the ventrum and the 15th rib to the tuber coxae. After making a stab incision into the left paralumbar fossa midway between the last rib and the tuber coxae approximately 10 cm ventral to the transverse processes of the lumbar vertebrae, a teat cannula can be inserted into the abdomen to allow insufflation of the abdomen with carbon dioxide to 15mmHg. After insufflation, the teat cannula should be replaced with a 10mm laparoscopic trocar to allow insertion of the laparoscope allowing examination of the abdomen. The laparoscope should be used to evaluate vasculature on the visceral aspect of the spleen. An electrosurgical vessel sealing device (LigaSure) should be inserted into the abdomen through the laparotomy wound and used under laparoscopic visualisation to coagulate and transect the phrenicosplenic ligament and gastrosplenic ligament (which may be indistinguishable and associated gastric arteries and veins. This will allow increased mobilisation of the spleen which can then be exteriorised through the laparotomy incision. This in turn will facilitate visualisation of the nephrosplenic ligament that can be transected sharply allowing access to the splenic artery and vein coursing into the hilus of the spleen. The splenic artery and vein should be triple ligated and this is best performed using extracorporeal knots. The vessels are then transected allowing the spleen to be carefully removed from the abdomen.

Routine resection of the 17th rib should commence; a 20cm long incision should be made over the 17th rib through the skin, subcutaneous tissues and musculature. The periosteum should be sharply incised and reflected circumferentially from the rib using a periosteal elevator. The rib can then be luxated at the costo-chondral junction using a rib splitter and can then be reflected dorsally and transected at the most dorsal aspect of the abdominal incision using gigli wire and then removed. This will allow entrance to the abdomen after extension of the incision through the axial periosteum and peritoneum. Enlarged and friable spleens can undergo parenchymal fracture or rupture during manipulation so care should be taken to avoid this.

After removal of the spleen, closure of the laparotomy wound should incorporate closure of the transverse abdominus and internal abdominal oblique, then the external abdominal oblique then the skin. Protection of the wound for recovery from anaesthesia should involve placement of a stent bandage.

Laparoscopic assisted equine splenectomy is a promising treatment for conditions of the equine spleen refractory to medical management including splenic rupture and idiopathic splenomegaly causing clinical signs of colic.
References


