BACKGROUND AND OBJECTIVES:

Inadvertent bladder injury is a potential complication of various urological and pelvic surgeries. Bladder injury can also be a complication of natural orifice transluminal endoscopic surgery (NOTES). The aim of this study was to test the feasibility of a NOTES approach to repair bladder lacerations in a blinded porcine study.

METHODS:

Intentional bladder lacerations were made to mimic accidental injury during NOTES in 7 pigs. In 3 animals, the site of bladder injury was identified and repaired by a blinded endoscopist. Bladder laceration and transluminal access sites were closed with Endoclips. Leak test was performed to confirm adequate closure. Survival animals were monitored postoperatively and surgical sites were inspected for abscess, bleeding, or damage to surrounding structures at necropsy.

RESULTS:

Complete endoscopic closure of bladder injuries was achieved in all 7 animals with a negative leak test. The site of laceration was successfully identified by the blinded endoscopist and repaired in all 3 animals in which it was attempted. Survival animals...
had an uneventful postoperative course without any complications.

CONCLUSION:

This blinded feasibility study shows that urinary bladder injury occurring during NOTES can be successfully managed via a NOTES approach using currently available endoscopic accessories.

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