Vascular shunts of the corpus cavernosum penis unidentified by cavernosography in a Brangus bull

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A two-year-old Brangus bull was presented to the Mississippi State College of Veterinary Medicine with a history of being unable to extend his penis and failure to service females. During a breeding soundness examination (BSE), the bull required manual assistance to fully extend the penis and a characteristic blushing of the penis was observed. Contrast cavernosography was conducted but did not illustrate the presence of a shunt. New methylene blue dye was then injected into the corpus cavernosum penis (CCP) and following stimulation via electroejaculation multiple vascular shunts were identified as areas of blue coloration appeared in the subcutaneous tissue in the free portion of the penis.

The failure of a breeding bull to attain an erection and achieve intromission is a cause of infertility that is not easily or consistently identified with a BSE. Identification of these impotent bulls allows for timely culling or potential surgical correction. Shunts can be the result of either a congenital weakness in the structural integrity of the tunica albuginea, or acquired via trauma or as a complication following a penile hematoma.1,2 The presence of single or multiple shunts prevents the “closed system” of the penis from attaining the blood pressure necessary for an erection.1,2,4 Diagnosis of vascular shunts is typically confirmed by cavernosography in which a contrast medium is injected into the CCP and serial radiographs of the penis are captured.1-3 Congenital shunts are usually multiple and not considered repairable; acquired shunts can be repaired surgically with a wedge resection of the defect in the tunica albuginea.4

Despite the diagnosis of multiple shunts (congenital), surgical repair of the largest shunt was attempted and the bull was placed on a 60-day period of sexual rest. At this time, the bull has not returned for a subsequent examination.

References