

## **Nerve dysfunction in the penis of an Angus bull**

M. Pelletier, M. Edmondson, J. Gard

College of Veterinary Medicine, Auburn University, Auburn, AL

A 4-year-old Angus bull was presented for spiral deviation of the penis and inability to impregnate cows. At the end of the previous breeding season, the bull was removed from the breeding herd for seven months of sexual rest with no health concerns. A routine breeding soundness examination performed by the referring veterinarian revealed a corkscrew deviation of the penis during electroejaculation. The owner noticed during natural service attempts that the penis spiraled and coitus could not be achieved. The Theriogenology Service performed a breeding soundness examination. During electroejaculation, spiraling was observed and mild blushing was seen on the free portion of the penis just proximal to the glans penis. A test mating was observed and upon mounting the corkscrew deviation was noted. A cavernosagram was performed to evaluate blood flow within the penis. The results did not definitively indicate the presence of a shunt. A nerve stimulation test to evaluate nerve function in the penis determined no sensation to be present in the glans penis. Even though the bull was able to achieve an erection, lack of sensation in the glans penis would not allow the bull to achieve intromission. The stimuli in the glans penis are conducted over the dorsal nerves of the penis to the pudendal nerves, which connect to the spinal cord and transfer stimulation to the brain. If 75% of the sensory fibers in the dorsal nerves are damaged, the bull usually cannot ejaculate.<sup>1</sup> The best way to evaluate function of the dorsal nerve is to observe the bull successfully achieve intromission and ejaculation.<sup>1</sup> Intromission was not achieved by this bull and did not evoke action potentials nor sensory nerve or motor nerve conduction velocities as determined by the nerve stimulation test. This test provides consistent and highly reproducible measurement of sensory-system function of the penis.<sup>1</sup>

### **Reference**

1. Wolfe DF, Moll HD: Examination and special diagnostic procedures of the penis and prepuce. In: Wolfe DF, Moll HD, editors. Large animal urogenital surgery. Baltimore: Williams and Wilkins; 1998. p. 221-231.