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Satisfactory semen quality after testicular rupture and hemicastration in a bull

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Hemicastration may allow preservation of fertility of valuable bulls after unilateral testicular and scrotal injury if performed early to prevent damage in the contralateral testicle. 1-3 This case report describes production of satisfactory semen quality in a bull after hemicastration due to testicular rupture and scrotal hematoma.

A 20-month old Red Angus bull was presented with unilaterally swollen scrotum noticed two weeks earlier. No other history was available. Fever, tachycardia and tachypnea were present. The left scrotum was painful, warm and enlarged. Differential diagnoses included scrotal hernia, hematoma, hematocele, pyocele, periorchitis, epididymitis and orchitis. On scrotal ultrasonography, the left hemiscrotum was thick with irregular borders. There were areas of anechoic fluid with hyperechoic fibrin strands within the vaginal cavity. No other scrotal contents were identifiable. These findings were consistent with scrotal edema and hematoma. Scrotal hematoma typically occurs secondary to trauma and blood vessel rupture within the spermatic cord or tunica albuginea. Treatment options include bilateral or unilateral castration. Prognosis for fertility after hemicastration depends on the functionality of the remaining testicle possibly affected by inflammation and impaired thermoregulation. 2 Moreover, anti-sperm antibody formation and immunoinfertility could occur after blood-testis barrier disruption. 4 Hemicastration was elected due to animal’s genetic value and a grossly normal right testicle. The diagnoses of scrotal hematoma and rupture of the testicle and tunica albuginea were confirmed at surgery.

A breeding soundness evaluation was performed two months after surgery. Scrotal circumference was 35 cm. Total and progressive sperm motility were 95 and 82%, respectively, with 85% morphologically normal sperm. The percentage of IgG- and IgA-bound sperm was 0.62 and 1.26%, respectively. Semen quality was satisfactory after hemicastration despite the chronicity of the testicular rupture and hematoma. Immunoinfertility did not seem to be a complication of testicular rupture. Hemicastration seemed a viable treatment for this bull, allowing preservation of breeding potential.

References