Congenital testicular neoplasia in a two-day-old Holstein calf
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Scrotal enlargement in a calf may be due to inguinal hernia, inflammation, hamartoma, abscess, or neoplasia. Differentiation of the primary problem is paramount to avoid possible intestinal strangulation within an inguinal hernia or loss of valuable genetics from testicular damage from delayed treatment. Physical examination, scrotal palpation, and ultrasound are used to narrow the differential list with histopathology and immunohistochemistry necessary for definitive diagnosis.

In this case a two-day-old Holstein calf presented for a scrotal enlargement. The right testis was firm and bi-lobed with fremitus of the spermatic cord. The physical examination was otherwise unremarkable. Ultrasound examination revealed mixed echogenicity of the stroma and marked dilation of the pampiniform plexus, narrowing the differentials to neoplasia or hamartoma.

Congenital testicular neoplasia in the bovine is rare. Sertoli cell tumors are firm and white with normal to pleomorphic cells. Teratomas, derived from totipotent germ cells, are well differentiated and may contain hair, bone, or teeth. Interstitial cell tumors, the most common in mature bulls, are tan with cells containing abundant cytoplasm, vacuoles, and brown pigment. Seminomas consist of polyhedral cells containing a large nucleus with a high mitotic rate, are pinkish, firm, and bulge on cut surface. Hamartomas are non-neoplastic tumors and consist of disorganized hyperplastic mature mesenchymal or epithelial cells within a fibrous stroma.

Bilateral castration was performed and the affected testis consisted of normal appearing, but enlarged testicular tissue ventrally and a fibrous encapsulated mass near the epididymal head. Histopathologically, the encapsulated mass was within the tunica albuginea and subdivided into lobules by collagenous trabeculae obliterating normal cytoarchitecture. Numerous intratubular sheets of polygonal cells with large nuclei, prominent nucleoli, and high mitotic activity were present. The presumptive diagnosis was congenital seminoma. Diagnostic immunohistochemistry is pending.

Keywords: Testis, neoplasia, seminoma, congenital

References