Cervico-pectoral Ectopia Cordis in Two Holstein Calves

Submitted by Dan Van Arsdall on Mon, May 9 @ 1pm

Two Holstein calves affected with cervico-pectoral ectopia cordis, a male (No. 1) delivered stillborn and a female (No. 2) died 1 hour after birth, were examined macroscopically and radiographically to assess the severity and elucidate the teratogenesis of the anomaly. The heart of one calf was covered by the intact pericardium and skin and displaced to the caudal almost portion of the ventrocervical region, just cranial to an enlarged thoracic inlet. The cranial vena cava and the vena azygos were duplicated. The sternum was bilaterally divided into two parts fused only at the xiphoid process and was semicircular. The heart of the other calf, covered solely by the pericardium, was exposed ventrally from an oval opening in the body wall just cranial to a defective Y-shaped sternum. In both calves, the arterial branching pattern from the aortic arch was intermediate between the patterns of the dog and pig, and in each case a single pulmonary vein emptied into the left atrium. Pronounced or slight torticollis, cleft palate, and abnormalities in the urogenital system were also found. From an embryological perspective, cervical and pectoral ectopia cordis have a common pathogenesis; the cervical type occurs at a slightly earlier fetal stage than the pectoral I type.

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