Pregnancy outcome of a mare with renal failure

Luis de Aguiar, Viviane Gomes, Linda Paul, Frank Andrews, Jenny Sones
Veterinary Clinical Sciences, School of Veterinary Medicine
Louisiana State University, Baton Rouge LA

A 15 year old Quarter Horse mare was in late-term pregnancy (~ 310 days) with azotemia (creatinine 8.0 mg/dl [reference range 0.5 - 2.0 mg/dl]) and poor body condition. Renal disease was suspected. Mare was bright, alert and responsive with severe pitting ventral edema and excellent appetite. Serum chemistry panel, urinalysis and urinary indices confirmed renal azotemia. Initial treatment consisted of intravenous fluids (3 liter/hour), furosemide (0.5 mg/kg, IV and 0.5 mg/kg IM) to initiate urination and omeprazole (4.0 mg/kg, po, q24 hours). Transabdominal ultrasonography showed a viable pregnancy with a fetal heart rate of 71 beats per minute (bpm). Fetal membranes were assessed via transabdominal ultrasound and were edematous with a combined thickness of uterus and placenta (CTUP) of 17.7 and 16.0 mm on the cranial and mid ventral abdomen, respectively. Transrectal ultrasonography showed 12.8 mm CTUP at the cervical star area, with no placental separation noted. Udder development was difficult to assess due to profound ventral edema. Right kidney was enlarged and cystic and left kidney appeared shrunken. Mare was given altrenogest (0.044 mg/kg, po, q24 hours) and pentoxifylline (7.5 mg/kg, q12 hours). After 24 hours, the CTUP was reassessed transabdominally and values decreased in the cranial and mid ventral abdomen (13.4 and 12 mm, respectively). Average fetal heart rate was 62 bpm. Mare's creatinine values ranged from 5.5 - 9.6 mg/dl and was fed a low protein diet (grass hay and concentrates) and diuresed with intravenous fluids (3 liter/hour) and furosemide. Six days later, mare showed signs of labor, including restlessness and discomfort. Milk pH was 6.2 and calcium was 200 ppm (Foal Watch, Chemetrics Inc, Midland, VA) consistent with eminent parturition (within 24 - 48 hours). Approximately 42 hours later (~ 318 days of pregnancy) the mare foaled a healthy filly. Foaling was uneventful, fetal membranes were passed 1 hour after foaling and the foal stood and nursed within 2 hours. Fetal membranes weighed 5.5 kg with moderate edema in the amnion and areas of the pregnant and nonpregnant horns. Placental thickening was compatible with abnormalities detected during the ultrasound examinations before parturition. Histopathologic findings of fetal membranes were consistent with normal pregnancy and uterine edema was not apparent microscopically in either horn, as thickness between pregnant and nonpregnant horns were within reference range. Postpartum rectal and vaginal speculum examinations revealed no abnormalities. Foal's creatinine (2.67 mg/dl) was within reference range for a day old foal. Although mare's azotemia and body condition failed to improve after foaling, supportive care enabled the mare to have normal foaling and a viable foal.

Keywords: Pregnancy, renal failure, mares