Dystocia and pathological conditions during early postpartum period in mare

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Dystocia and pathological conditions during early postpartum period in mare

**Dystocia (abnormal foaling)**
- mare problems (dystokia materna)
  - abnormality of birth canal
    - previous pelvic injury
    - tumors or other masses
    - previous perineal laceration
  - abnormality of uterine contraction
    - rupture prepubic tendon
    - large ventral hernia
    - old mares, pure body condition
    - permanent tracheostomy
- foal problems (dystokia fetalis)
  - congenital anatomical abnormalities
    - hydrocephalus
    - schistosomus reflexus
    - monsters
    - arthrogryposis
  - grossly oversized foal
    - absolutely
    - relatively
  - fetal malposition

**Complications of late gestation and partuition**
- uterine torsion
- hydrops amnion and allantois
- premature placental separation
- rupture uterine or ovarian artery
- rupture of the uterus
- lacerations of the reproductive tract
- vaginal bleeding
- retained placenta
- septic metritis
- uterine prolapse
- bladder prolapse
Abnormal foaling
DYSTOKIA MATERNA

- abnormality of birth canal
  - previous pelvic injury
  - tumors or other masses
  - previous perineal laceration
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  - rupture prepubic tendon
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  - old mares, pure body condition
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Abnormal foaling
DYSTOKIA FETALIS

- congenital anatomical abnormalities
  - hydrocephalus
  - schistosomus reflexus
  - monsters
  - arthrogryposis
- grossly oversized foal
  - absolutely
  - relatively
- fetal malposition
Normal foal presentation – anterior, longitudinal, dorsosacral
posterior, longitudinal

dorsal transverse

ventral transverse
unilateral carpal flexion

shoulder flexion
left deviation of the head and neck

ventral retroflexion
bilateral hock flexion

breech
dog sitter
dorsopubic
Reposition

- stillbirth

- 11 months
Reposition

- stillbirth
- 10 months
- bilateral hock flexion
Fetotomy

- in term
- dead foal
Fetotomy

- easy (less than 3 cuts) x complicated
- staff
- equipment
- anesthesiologist
- time

- prolonged fetotomy is potentially disastrous
Complications of late gestation and partuition

**UTERINE TORSION**

- **history**
  - usually last 3 months of pregnancy
  - seldom associated with partuition (x cow)
  - precervical
  - sudden fetal movements, falls or rolling…?
  - colic, slow progression of labor

- **diagnosis**
  - rectal palpation – broad ligaments
  - rotation 90°-720° (affection of circulation, fetal death or hypoxia)

- **treatment**
  - manulal reduction by rocking the fetus
  - rolling the mare („plank in the flank“)
  - laparotomy
Complications of late gestation and partuition

HYDROPS AMNION AND ALLANTOIS

- hydramnion (inability of the fetus to swallow), hydrallantois (more common, abnormality of placenta)
- diagnosis
  - normally: 3-7 l of amniotic fluid, 8-18 l of allantoic fluid, placenta 2.2 -6.4 kg
  - abdominal enlargement
  - unable to move and rise, ventral edema, hernia, rupture of the abdominal musculature, colic, rupture of the uterus, …
  - rectal palpation – grossly enlarged uterus, difficult to palpate the fetus
- treatment
  - abortion or induction of parturition
  - drainage of fluid from the abdomen slowly ! danger of circulatory shock
- prognosis
  - nonviable foals
  - not bred to the same stallion
Complications of late gestation and partuition

RUPTURE UTERINE OR OVARIAN ARTERY

• history
  – end of gestation, parturition, immediately after delivery
  – a. uterina, a. ovarica, a. iliaca externa
  – older multiparous mares
  – hemorrhage into broad ligament x abdomen
  – colics, death

• diagnosis
  – signs of hemorrhage, flehmen,
  – rectal palpation carrefourly
  – hematoma

• treatment
  – supportive care – reduction of stress, excitement
  – blood transfusion, infusion ??

• prognosis
  – intra-abdominal hemorrhage – 😞
Complications of late gestation and partuition

RUPTURE OF THE UTERUS

• history
  – spontaneously in normal delivery x uterine torsion, hydrops, dystocia, fetotomy, violent fetal movement..
  – acute abdominal pain
  – hemorrhagic shock, die before any sings, free dead foal in abdomen

• diagnosis
  – history, rectal palpation, USG, intrauterine palpation, peritoneal fluid analysis

• treatment
  – partial-thickness tears – without treatment
  – ATB, nonsteroidal anti-inflammatory drugs, oxytocin, prophylactic treatment for laminitis
  – No lavage!
  – full-thickness tear surgical repair, treatment of peritonitis

• prognosis
  – guarded
  – not rebred for min 60 days, artificial insemination
Complications of late gestation and partuition

LACERATIONS OF THE REPRODUCTIVE TRACT

• delivery of the foal before completely relaxation, foal oversize, malposition
• foaling attendants help
• fetotomy
• treatment
  – ATB, nonsteroidal anti-inflammatory drugs, TAT
  – surgical repair immediately or after 4-6 week
First-degree perineal lacerations

- involves only the mucosa of the vestibule and the dorsal commissure of the vulva
- Caslick’s vulvoplasty
- re-breeding in 30 days
Second-degree perineal lacerations

- involves he mucosa and submucosa of the vestibule and the skin and part of the perineal body musculature
- sinking of the anus and dorsal vagina - pneumovagina
- spontaneous healing possible
Third-degree perineal lacerations

- all layers of the vestibule, perineal body and rectum, with disruption of the anus
Rectovaginal fistulae
Complications of late gestation and partuision

PREMATURE PLACENTAL SEPARATION

• „red bag delivery“
  – no rupture at the cervical star region
  – no evidence of the water breaking
  – bleeding history

• cause
  – placental edema (intoxicosis, stress, excessive nutrition in late gestation)
  – ascending infection
  – induced parturition

• treatment
  – emergency situation for the fetus!
  – the fetus should by extracted as quickly as possible
Complications of late gestation and partuition

VAGINAL BLEEDING

- varicosity of vaginal blood vessels, vaginal trauma
- seldom due to placental or uterine problems
- older mares, pregnancy, estrus
- eliminate urinary tract bleeding
- vaginoskopy
- no treatment
Complications of late gestation and partuition

RETAINED PLACENTA

- most common complication in the postpartum mare (2-10 % deliveries)
- normal placental release within 3 hours of birth, later serious difficulties!
- multifactorial etiology
  - uterine inertia and fatigue (hypokalcemia, hydropic conditions, twin pregnancy, dystocia, anesthesia)
  - Ca/ P imbalance
  - Se deficiency
  - induced delivery
  - Cesarean section
  - placentitis
- ↑draft mares, older mares, multiparous mares
Complications of late gestation and partuition

RETAINED PLACENTA

• Complications
  – metritis/endometritis
  – septicemia
  – endotoxemia
  – laminitis

• Diagnosis
  – clinical examination
  – examination of placenta
  – intrauterine examination/lavage
Complications of late gestation and partuition

RETAINED PLACENTA

• **Treatment**
  - tied up the hanging part of placenta, not cut off
  - Oxytocin
    - 50 m.j./500 ml NaCl
    - 20 – 25 i.u. repeated i.m.
  - uterine lavage
  - gentle traction

• **Prevention/treatment of complication**
  - ATB
  - NSAID
  - infusion
  - sole supports
Complications of late gestation and partuition

**SEPTIC METRITIS**

- frequent complication of retained placenta
- depression, fever, diarehea, laminitis
- brownish-red, fetid vaginal discharge, enlarged and thickened uterus, USG- fluid,
- treatment
  - life-threatening disease
  - lavage
  - ATB, NSAID
  - infusion
  - oxytocin
  - prevention of laminitis
Complications of late gestation and partuition

BLADDER

EVERSION / PROLAPSE

- rare condition in the mare, draft mares more often
- eversion – tear in the ventral vaginal floor + abdominal contractions
- prolapse – due to straining during delivery, everte through the urethral opening

Treatment
- epidural anestezia
  - 1. the bladder should be cleaned, emptied, replaced and the hole repaired
  - 2. cleaned, reduction of edema (cool, dextrose), replaced through the uretral opening
- prevent mare from continued straining (epidural anestezia, nasotracheal tube
- urinary incontinence
UTERINE PROLAPSE AND EVERSION OF THE UTERINE HORN

- uncommon in mare
- circumstances
  - fetal extraction prior to complete relaxation, too forceful/too fast en extraction
  - prolonged/difficult dystocia, exhausted mare
  - straining after delivery (retained placenta, vaginal or vulvar lacerations, uterine lacerations and rupture, rupture of mesorectum)
  - abortion
  - old mares
  - poor condition
- life-threatening internal hemorrhage (rupture of ovarian arteries – rapid death)
- shock (ischemia, necrosis, endotoxemia)
- colic – nonresponsible to analgesics
- treatment
  - restrain the mare and keep her quiet, standing, elevate the uterus
  - epidural anesthesia, analgesics
  - clean and examine the uterus, manipulate it back
  - lavage, oxytocin, ATB