Surgical aspects of Acute Abdomen in Small Animals

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Definition

⇒ life-threatening morphological and functional disorders of intraabdominal organs requiring emergency critical care and surgical resolution

⇒ if the surgical intervention delays or is cancelled, the deterioration consequently leads to death

Classification
(based on aetiology)

1. Dislocation of abdominal organs
2. Obstruction of luminal organ
3. Perforation/Arrodation/Rupture of luminal organ
4. Abdominal injuries
5. Acute abdominal bleeding
6. Acute blood supply anomaly

1. Dislocation of organs

• G.D.V.
• Small intestinal torsion
• Large intestinal torsion
• Torsion of the uterus
• Torsion of the tumorous cryptorchid testis
• Liver lobe torsion

2. Obstruction of luminal organ

• pylorus-obstruction
• small intestinal obstruction
• large intestinal obstruction
• obstruction of the bile tract
• ureteral obstruction

3. Perforation /Arrodation / Rupture of luminal organ

• Rupture / Perforation of the stomach
• Rupture / Perforation of the intestinal tract
• Rupture of the urinary bladder
• Rupture / laceration of the ureter
• Perforation / rupture of the gall bladder
• Rupture of the uterus
• Rupture of abdominal cyst or abscess
4. Abdominal injuries

- Blunt trauma
- Penetrating trauma

5. Acute abdominal bleeding

- Rupture of abdominal vessels (peritoneal, retroperitoneal bleeding)
- Rupture of parenchymal organs (spleen, liver, pancreas, kidney, abdominal tumour)
- Rupture of luminal organs (stomach, intestine, uterus)

6. Acute blood supply anomaly

- tromboembolia
- strangulation (hernia)

Diagnosis (general protocol)

- 1. History
  - rapidly (within hours) deteriorating general state
  - irresponsiveness to symptomatic therapy

- 2. Physical examination
  - apathy, collaps
  - altered circulatory/respiratory state (shock, anemia, pulmonary edema)
  - abdominal pain (défense)
  - vomiting (intestinal obstruction, reflectory)

- 3. Supplementary examination
  - laboratory examination (PCV, blood-profile, acid-base, electrolites, puncture)
  - X-ray (plain, contrast)
  - US
  - diagnostic abdominocentesis
  - urethral catheterisation
  - endoscopy
  - CT, MR
  - exploratory laparotomy!
Therapy (general protocol)

• **1. Stabilisation of the circulation and respiration**
  – shock-therapy
  – diuretics
  – analgesics

Therapy (general protocol)

• **2. Exploratory laparotomy**
  – „risk anesthesia (ASA IV-V.)
  – ventral midline laparotomy
  – bleeding-control (ligature, electrocauterisation)
  – ceasing leakage from the gastrointestinal tract

Therapy (general protocol)

• **2. Exploratory laparotomy (cont.)**
  – systematic examination of abdominal organs
    • a., gastrointestinal tract, mesenterium
    • b., liver, biliary system
    • c., spleen
    • d., pancreas
    • e., kidney, adrenal gland, ureter, urinary bladder
    • f., retroperitoneum

Therapy (general protocol)

• **2. Exploratory laparotomy (cont.)**
  – removal of devitalised parts of organs
    (resection, lobectomy, necrectomy)
  – reconstruction of luminal and/or parenchymal organs (suturing, anastomosis)
  – peritonisation (omentum)
  – abdominal lavage
  – abdominal drainage