E05: Abdominal Pain

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Introduction

Abdominal pain is one of the most common prehospital complaints, and features a broad and varied list of potential causes ranging from benign to life threatening. In the absence of laboratory testing and diagnostic imaging, it can be extremely difficult to differentiate between causes of abdominal pain.

Common origins for abdominal pain can include biliary tract diseases, appendicitis, peptic ulcers, diverticulitis, acute gastroenteritis, renal colic, urinary tract infections, GERD, constipation, bowel obstruction, and many others. When examining a patient with abdominal pain, paramedics must be aware that the pain may be originating from outside of the gastrointestinal system. Consider cardiac, urinary, reproductive, respiratory, and toxicological origins in these cases.

The prehospital care of abdominal pain centers on the early identification of life-threatening causes, the management of symptoms and physiological dysfunction, and improving patient comfort.

Essentials

- Identify and communicate potentially life-threatening causes of abdominal pain
- Identify and correct hypovolemia
- Provide symptom relief

Additional Treatment Information

- Fluid replacement should be considered if clinical signs of dehydration or hypovolemia are present. These can include dry mouth or tongue, poor skin turgor (i.e., tenting), and a history of diminished oral intake or fluid loss (vomiting, diarrhea).
- Manage nausea and vomiting. Paramedics should be particularly alert to the presence of blood or "coffee ground" emesis. Maintain patient dignity and comfort during episodes of nausea and vomiting.
- Consider assessing blood glucose levels in cases of prolonged vomiting, anorexia, or limited oral intake.
- Practitioners should ensure that acute abdominal pain is managed adequately with analgesic medications. Strong evidence supports the use of narcotic analgesics in this patient population. Use of analgesia does not affect the accuracy of in-hospital assessment or diagnosis.

General Information

- Use appropriate personal protective equipment. Contact precautions may be warranted in patients who exhibit signs and symptoms consistent with infectious causes of abdominal pain. Fever, nausea and vomiting, loose stools or diarrhea, myalgia, and headache may be the result of norovirus infection. Refer to BCEHS Infection Control and Prevention material for additional guidance on the selection and use of personal protective equipment.
- Potentially life-threatening causes of abdominal pain or discomfort include:
  - *Aortic aneurysm or dissection* is sometimes accompanied by a known history of aneurysm, or pain characterized as ripping or tearing, with radiation to the back. It may correspond to a syncopal event. Pain from an aortic dissection is generally above the diaphragm, and may manifest itself as chest or back pain. Leaking or disrupted abdominal aortic aneurysms produce pain below the diaphragm.
    - → C05: Acute Aortic Dissection
  - *Acute coronary syndromes* can manifest as pain above the umbilicus, and should be considered in all patients over the age of 35.
    - → C01: Acute Coronary Syndrome
  - A *perforated abdominal viscus* is often associated with a history of peptic ulcer disease or diverticulitis. It is characterized by the rapid onset of abdominal pain accompanied by abdominal rigidity, guarding, and rebound

tenderness. Patients are commonly febrile and nauseated.

- Although uncommon, *ectopic pregnancies* should be considered in any woman of childbearing age with lower abdominal quadrant pain. A syncopal event, associated with abdominal pain in this population, is suggestive of a ruptured ectopic pregnancy.
- *Mesenteric ischemia* should be suspected in patients who have a sudden onset of severe pain, which can be disproportionate to the physical findings. Atrial fibrillation and prior cardiovascular disease are risk factors. The mortality rate can be as high as 70%.
- Constant pain in the epigastrum radiating to the back should prompt a consideration of *pancreatitis*. Risk factors include alcohol abuse and biliary tract disease. Consider the possibility of diabetic ketoacidosis in Type 1 diabetics.
- Abdominal pain associated with dark, tarry stools, frank blood in the stool or emesis is suggestive of a *gastrointestinal hemorrhage*. Significant quantities of blood can be lost through gastrointestinal bleeding: watch for signs of hypotension.
- *Anaphylaxis* can provoke abdominal pain, cramping, nausea, vomiting, and diarrhea,
  - → E09: Anaphylaxis
- Abdominal pain can be associated with *sepsis*.
  - → K02: Sepsis

Interventions

First Responder

- Place patient in position of comfort where possible
- Prevent heat loss
- Provide supplemental oxygen as required
  - → A07: Oxygen and Medication Administration

Emergency Medical Responder – All FR interventions, plus:

- Provide supplemental oxygen to maintain SpO_2 ≥ 94%
  - → A07: Oxygen and Medication Administration
- Consider analgesia:
  - → E08: Pain Management
  - Nitrous oxide (self-administered) to effect
  - Nitrous oxide should be used with caution in abdominal pain – the gas has a tendency to diffuse into air-filled spaces. Its use is contraindicated in patients with gross abdominal distension.

Primary Care Paramedic – All FR and EMR interventions, plus:

- Obtain vascular access
  - → D03: Vascular Access
  - Consider volume replacement to correct hypotension. Target systolic blood pressure of 90 mmHg.
- Consider symptom relief for ongoing nausea or active vomiting:
  - → E07: Nausea and Vomiting
    - DimenhyDRINATE

Advanced Care Paramedic – All FR, EMR, and PCP interventions, plus:

- Obtain and interpret 12-lead ECG in patients over 35 and pain above the umbilicus
  - → PR16: 12 Lead ECG
  - → C01: Acute Coronary Syndrome
- Consider symptom relief for ongoing nausea or active vomiting:
  - → E07: Nausea and Vomiting
- Consider analgesia:
  - FentaNYL

Evidence Based Practice

Abdominal Pain

References

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