

Appendix

Abdominal pain: a synthesis of recommendations for its correct management

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Management of patient with abdominal pain: summary

History and physical examination

The physical examination must be reported indicating the time of the day on the clinical record and repeated during the day. It includes:

i) Vital signs with signs of shock, hemorrhage, respiratory distress, confusion and acute neurologic disorder.

ii) History with focus on:

- Age (before 30 years of age patients are mainly affected by appendicitis, unspecific abdominal pain and gynecologic disorders; after 70 years of age by strangulated hernia, ruptured aneurysm, cancers, sigmoiditis, colecistitis, peritonitis);
- Previous disorders (vascular diseases, metabolic comorbidity, such as diabetes, previous surgery and digestive diseases);
- Drugs (ant inflammatory drugs, antiaggregating drugs, anticoagulant drugs, immunosuppressors, antiarrhythmic drugs, *etc.*).

iii) Analysis of the type of pain in 5 points:

- Type of onset and evolution;
- Signs of severity: abrupt, progressive (perforation, renal colic);
- Intensity of pain assessed on the basis of an analogic scale (the most intense: ischemia, pancreatitis, renal colic);
- Type of pain (stabbing and constrictive pain is more alarming than heaviness);
- Site of pain (ideal division of abdomen in 9 quadrants).

iv) *Identification of associated signs:*

Transit, fever, vomiting.

v) *Physical examination:*

Abdominal and systemic examination can indicate if a medical therapy or surgery is required with tests to perform.

vi) *Laboratory tests:*

General tests: very sensitive, a limited number of specific tests that suggest infection, inflammation, dehydration, hypoxia; tests to assess organ involvement (e.g., lipasis, cytolysis, epatic β -human chorionic gonadotropin).

vii) *Radiographic examinations*

In case of emergency: possibly abdominal computed tomography (CT) when the patient is stable.

In case of urgency: depending on suspicions and health state:

- Abdominal radiography to confirm occlusion/pneumoperitoneum (controversial utility);
- Ultrasound for cholecystitis;
- CT for sigmoiditis.

In 50% of cases *imaging* techniques are not helpful.¹

In case of *relative urgency*: possibly abdominal ultrasound (US) and CT if they can lead to a diagnosis and avoid unnecessary admission to hospital, otherwise they can be postponed.

In recent studies¹ CT associated with clinical examination has 90% sensitivity (SE) vs clinical examination alone (76%), makes it possible to confirm the diagnosis, choose the treatment timely, avoid useless lapatomies, correct an inadequate diagnosis. In other studies, CT has

89% SE (confidence interval 95% 87-92%), US 70% (confidence interval 95% 67%-74%)

($P < 0.001$). Using CT only in case of uncertain US, SE can be further increased with only 6% of urgent misdiagnosed cases and only 49% of patients doing CT.¹

Reference

1. Kasper DL, Braunwald E, Fauci AS, et al. Harrison - Principi di medicina interna, 16th ed. Milano-New York: Mac Graw-Hill; 2005.

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