

Hypovolemic shock due to nontraumatic splenic rupture in adolescent patient. A rare complication of infectious mononucleosis

Shock hipovolémico por rotura esplénica no traumática en un paciente adolescente. Una rara manifestación de la mononucleosis infecciosa

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The main cause of splenic rupture is abdominal trauma. Non-traumatic splenic rupture is a very rare complication of infectious mononucleosis (0.1-0.4%) and represents a vital emergency, since it increases the mortality rate of the disease (< 0.1%) up to 9-13%¹.

We present the case of a 16-year-old male, with no medical history, who attended the emergency department after presenting a syncopal episode without associated trauma. He reports a slight epigastric pain referred to the thorax, nausea and vomiting. On arrival, he had with hypotension (97/46 mmHg) and tachycardia (112 bpm). The examination revealed a painful abdomen with a positive Kehr sign. The complete blood count showed severe anemia (hemoglobin 6 g/dl) and 31,000 leukocytes/ml. A FAST (*Focused Abdominal Sonography for Trauma*) ultrasound was performed which was not conclusive, so after stabilizing the patient an urgent abdominal-pelvic computed tomography was performed which reported splenomegaly with splenic subcapsular hematoma, with active bleeding points in the posteroinferior pole, compatible with splenic rupture (Fig. 1). The mono-test was positive, as well as the subsequent confirmation with VCA-IgM antibodies. After initial resuscitation with intensive fluid therapy and transfusion of two bags of packed red blood cells and tranexamic acid, the patient was transferred to the emergency room. It was accessed by median laparotomy and evidence of massive 3000 ml hemoperitoneum and significant splenomegaly with rupture of the lower pole that presented

active bleeding, for which splenectomy was performed. The patient evolved favorably and was discharged 5 days later.

Infectious mononucleosis mainly affects children and adolescents, and generally presents as a non-specific viral picture. Splenomegaly appears in half of the cases and, as lymphoid cells accumulate in the splenic parenchyma, it is more fragile and the risk of rupture increases².

This pathology must be considered when young patients come to the emergency room with a non-specific viral picture, abdominal pain and hemodynamic instability. Kehr's sign (pain radiating to the chest and left shoulder on compression of the left upper quadrant) or Danforth's sign (pain radiating to the left shoulder on inspiration) support this suspicion, but it must be confirmed by imaging tests (FAST ultrasound in unstable patients or computed tomography in the case of hemodynamic stability)³.

Traditionally, splenectomy has been the treatment of choice for splenic rupture, but non-surgical treatment is increasingly preferred in hemodynamically stable patients⁴ with the support of interventional radiology and endovascular treatments, especially in children and adolescents, in which the risk of post-splenectomy sepsis is greater⁵.

Clinical suspicion (even in the absence of abdominal trauma), prompt initiation of initial resuscitation measures, and coordination from the emergency department with surgery to avoid the high mortality of this condition.

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Figure 1. *Computed tomography showing splenomegaly measuring 17.5 cm in the long axis, multilaminar subcapsular hematoma, and hemoperitoneum.*

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Ethical disclosures

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