Hemorrhagic shock due to retroperitoneal hemorrhage: a rare complication of lumbar puncture

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Abstract

Lumbar puncture is a routine procedure frequently done in hospitalized patients. This tecnique is not free from complications. Here we bring a case of active bleeding from a lumbar arterie after a lumbar puncture that leads to hemorrhagic shock and retroperitoneal hematoma. Furthermore, we focus on developing non-surgical alternatives to cease active bleeding.

Keyword: Lumbar puncture, Hemorrhagic shock, Retroperitoneal hemorrhage.

Acta Neurol Taiwan 2023;32:136-137

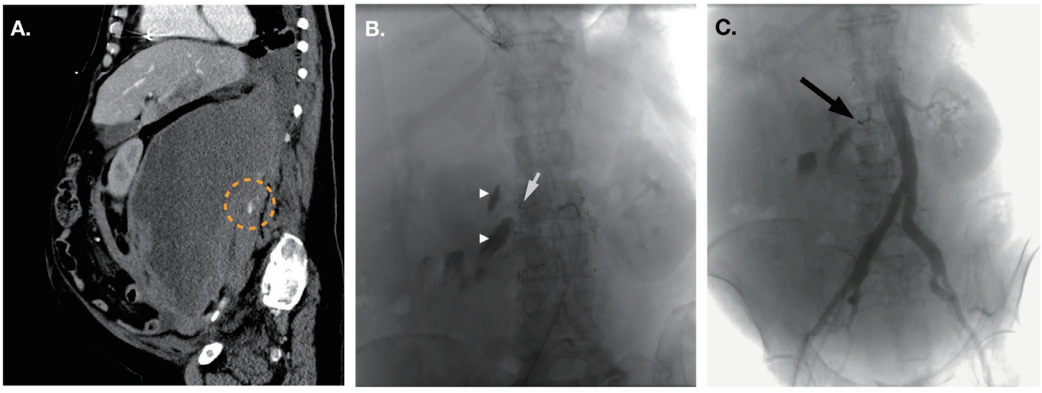

Figure 1. ***A)*** Contrast-enhanced abdominopelvic CT with sagittal reconstruction in which a large retroperitoneal hematoma shows focal contrast extravasation *(yellow circle)* indicating active bleeding. ***B)*** Selective arteriography that reveals active arterial bleeding *(arrow tips)* dependent on L3 right lumbar artery *(arrow)*. ***C)*** Control aortography post embolization with coils *(black arrow)* where the absence of bleeding is confirmed. It is also found a right renal shadow, right renal artery and abdominal aorta displacement to the left due to right retroperitoneal hematoma.

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Received June 1, 2022. Revised June 9, 2022.
Accepted September 14, 2022.

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A 70-year-old female with a past medical history significant for diabetes, ischemic stroke without sequelae, hypothyroidism, and atrial fibrillation anticoagulated with acenocoumarol was admitted to Neurology hospitalization to be studied about a case of delirium with agitation and hallucinations.

A lumbar puncture (LP) was planned to be done after 36 hours of interruption of acenocoumarol and the start of low molecular weight heparin. A 20 gauge conventional needle was used and 4 attempts were needed, having placed the patient in left decubitus. The first two tries with midline technique and the rest with left paramedian approach through L3-L4 space. A hematic liquid opening followed by a clear fluid ending was achieved.

In the following hours, she felt intense hypogastralgia, followed by hypotension and a four-point drop in hemoglobin value. The intensive Care Unit was called and an ABCD approach was performed including Focused Assessment with Sonography in Trauma (FAST), finding hemorrhagic shock stigma: drowsiness, hypotension, tachycardia and intraperitoneal fluid, as well as mass effect signs. We started resuscitation with a total amount of 3000 milliliters of crystalloids, six-packed red blood cells, 400 milliliters of fresh frozen plasma, a gram of tranexamic acid, and a gram of calcium chloride, with the necessity of noradrenaline.

Meanwhile, a contrast-enhanced abdominopelvic CT was performed and showed a retroperitoneal hematoma with mass effect and active bleeding from the third right lumbar artery (probably due to an oblique left paramedian LP approach). Finally, the bleeding was stopped with the embolization of the artery referred to with four coils placed by the Interventional Radiology team.