

Case Letter

Retroperitoneal hematoma following common iliac artery injury in a child

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Dear editor,

A six-month-old child with a history of coarctation of aorta repair admitted to our hospital with recoarctation. She underwent cardiac catheterization for stent placement via right femoral access. Reportedly, there was difficulty inserting and removing the sheath. There was no bleeding or hematoma and the distal pulse well felt at the completion of the procedure. While in recovery unit child acutely deteriorated with tachycardia, oxygen desaturation, and hypotension. She was then endotracheally intubated and started on fluid resuscitation and on vasopressors infusion. Upon arrival to the pediatric intensive care unit (PICU) child was tachycardic, pale and noted a mass on the right lower quadrant of the abdomen. Her hemoglobin dropped from 12 gm/dL to 5 gm/dL. Given the child with hemorrhagic shock, and with right lower quadrant abdominal mass, a possibility of retroperitoneal hematoma (RPH) was considered. Other possible causes of hemorrhagic shock, such as vascular access site bleeding, pleural and pericardial effusions were ruled out.

Upon further workup, X-ray imaging with the aortic stent was in place with left side displaced urinary bladder noted (Figure 1). Abdominal ultrasonogram was suggestive of retroperitoneal hematoma (RPH). A bedside angiogram through the left femoral access demonstrated no active bleeding and complete occlusion of the right common iliac artery (CIA) (Figure 2). She received several blood product transfusions with the resolution of shock. Since the child's hemodynamics improved, she was managed conservatively and extubated to room air following day. Her right lower extremity had mild capillary refill delay. Heparin infusion was started initially then transitioned to low

molecular weight heparin before discharging home. At one month follow up child's right lower extremity perfusion normalized.

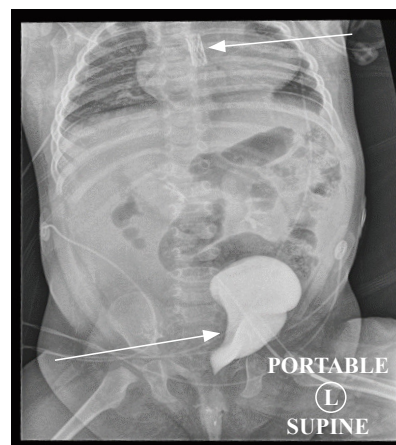


Figure 1. X-ray imaging with the aortic stent was in place with left side displaced urinary bladder noted.

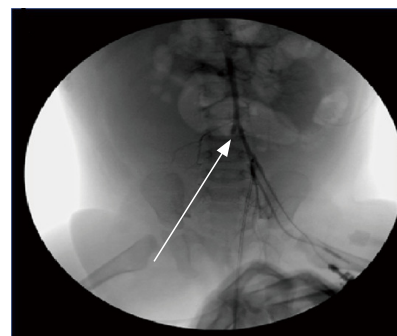


Figure 2. A bedside angiogram through the left femoral access demonstrated no active bleeding and complete occlusion of the right common iliac artery.

DISCUSSION

Although the complications associated with cardiac catheterization declining, vascular complications are still the most common adverse event.^[1] The occurrence of retroperitoneal hemorrhage (RPH) following iliac artery injury is rare but it's potentially fatal.^[2,3] The risk of complications was higher in patients with less than 6 months of age, inpatient status, and with interventional procedures.^[1,3] Since retroperitoneum can accommodate a large volume of blood volume, patients usually present with hypovolemic shock, lower abdominal mass, as in our index child. Computed tomography (CT) of the abdomen confirms the diagnosis of RPH.^[2] Early recognition of RPH and aggressive resuscitation will improve the outcome.^[4] In patients with unstable hemodynamics and with active bleeding, endovascular or open surgery is recommended.^[5]

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