**ABSTRACT**

An unexpected complication of BMAT.

Amirah Azman1, Muhammad Aslam Ayob1

Emergency and Trauma Department, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan

Introduction:

Bone marrow is situated within the spongy tissue of larger bones. It serves as the primary site for blood cell production. The bone marrow aspiration and trephine biopsy (BMAT) is generally a safe procedure for diagnosing various haematological conditions such as cancers, metastatic diseases, and storage disorders. It is typically involving sampling from the pelvic bones, particularly the iliac crest. We report a case of unexpected complication of BMAT.

Case Report:

A 76-year-old man with multiple comorbidities underwent elective BMAT at a medical daycare facility. Post-procedure, he complained of lower abdominal pain. Blood was observed in the urinary catheter tubing. Patient then was referred to emergency department. Haemodynamically, patient was hypotensive with low haemoglobin level. He was resuscitated with 2 pints packed cell and 4 units of fresh frozen plasma. Bedside ultrasound revealed a suprapubic mass with minimal free fluid around the bladder, but no hematoma at the puncture site. Proceed with CT imaging, showed pelvic haematoma with evidence of active bleeding likely from the right external iliac vein. Follow-up imaging showed a slightly larger hematoma but no active bleeding or bladder injury. Case was referred to urology team.

Discussion:

BMAT is generally safe but can rarely lead to complications like haemorrhage, soft tissue trauma, or infection. Bleeding from the right external iliac vein post-BMAT is exceptionally rare but potentially serious, necessitating immediate measures to control bleeding and stabilize the patient, including possible surgical intervention and blood transfusions (1). Further evaluation may be required to assess the extent of vascular injury and long-term complications, typically through imaging studies such as ultrasound or CT imaging. Preventing such complications involves careful site selection to minimize vascular injury risk. Initial ultrasound assessment was useful as it was widely available and non-invasive to assess the complications of vascular injury such as intra or retroperitoneal haematoma. Meanwhile, CTA is the gold standard (2).

Conclusion:

BMAT complication of vascular injury is extremely rare. Presence of haematoma and free fluid by ultrasound raised the suspicious of vascular injury in BMAT procedure. Early detection by ultrasound can initiate prompt and definitive treatment in optimizing patient outcomes and preventing further complications (3).