

Bilateral Adrenal Hemorrhage Secondary to Heparin Induced Thrombocytopenia in a Trauma Patient

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Dear Editor,

We report a case of a trauma patient with Bilateral Adrenal Hemorrhage (BAH) associated with Heparin Induced Thrombocytopenia (HIT). An 80-year-old man was brought to our hospital after falling from a height of 3 m. His vital signs were stable, and whole body Computed Tomography (CT) showed that he had right multiple rib fractures, hemothorax, and pelvic fracture. The patient subsequently underwent Transcatheter Arterial Embolization (TAE) for the pelvic fracture hemorrhage treatment. Then, the patient was admitted to the intensive care unit and was transfused 2 units of red cell concentrate and 2 units of fresh frozen plasma.

On Day 3, we started with the subcutaneous injection of unfractionated heparin (15,000 units per day) to prevent Deep Vein Thrombosis (DVT). On Day 6, the patient vomited and had fever (39°C) with a confused mental status. His systolic blood pressure suddenly dropped to 90 mmHg. Abdominal CT scan demonstrated BAH (Figure 1) and laboratory findings exhibited a platelet count of $50 \times 10^3 \text{ mm}^{-3}$ (which was $160 \times 10^3 \text{ mm}^{-3}$ 5 days earlier). We suspected HIT leading to BAH and stopped heparin injection; we subsequently started anticoagulation therapy with argatrovan (continuous infusion: 0.5 $\mu\text{g}/\text{BW kg}/\text{min}$) and checked heparin antibody. As the patient was in a shock status, we diagnosed adrenal insufficiency and started the administration of steroids. Subsequently, the patient gained consciousness, his other symptoms regressed, and his platelet count gradually increased. Later, heparin antibody was found to be positive, and the diagnosis of HIT was confirmed.

Discussion

Diagnosis of BAH is challenging [1]. For effective treatment, it is important to suspect BAH and take a CT scan, which has excellent diagnostic accuracy in BAH [2]. BAH is a recognized complication of meningococemia, sepsis, trauma, burn, coagulopathy, and anti-coagulation therapy. The symptoms of BAH are nonspecific and

variable: they include fever, confused mental status, vomiting, low blood pressure, and abdominal pain. In the case of BAH leading to acute adrenal insufficiency, a delay in diagnosis may be fatal [3,4].

Unfractionated Heparin (UFH) is not recommended to prevent DVT in trauma patients [5]. However, in Japan, Low-Molecular-Weight Heparin (LMWH) is not approved to administer to a trauma patient who has not undergone an operation in order to prevent DVT.

HIT causes the venous and arterial thrombosis, leading to various complications, including BAH. As mentioned above, the diagnosis of BAH is challenging. Therefore, in the clinical course of treatment of trauma patients administered with heparin, BAH associated with HIT should be taken into consideration.

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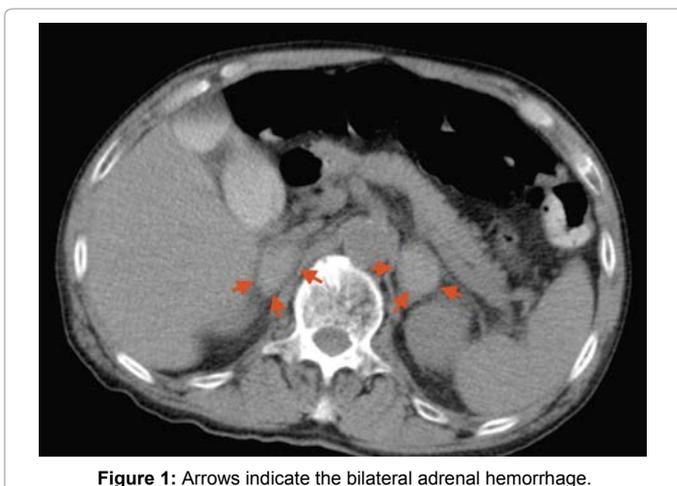


Figure 1: Arrows indicate the bilateral adrenal hemorrhage.

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