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Bilateral Adrenal Haemorrhages Presenting as Adrenal Insufficiency

Kalyan Mansukhbhai Shekhda*, Kerk Loon Avram Chua, Ali Rathore, and Taofeek Ojewuyi

Department of Diabetes and Endocrinology, Southend University Hospital NHS Trust, Westcliff-on-Sea, United Kingdom

An elderly gentleman was admitted to the hospital following an acute non-ST elevation myocardial infraction. He had undergone percutaneous coronary intervention, and he was treated with a low-molecular-weight heparin, dual antiplatelet therapy (Aspirin and Ticagrelol). He was not on any pain killers, opioids or steroids. He re-presented to the hospital a few days later with dizziness and a fall whilst mobilising. On admission, he was found to have dehydration, hypotension (blood pressure of 103/65 mmHg), as well as normal blood gas and glucose levels. His routine blood tests including full blood counts, platelet counts, and coagulation screenings were normal. He had a CT scan of the head, thorax, abdomen, and pelvis as a part of hospital trauma policy. The CT of the head showed a mild concussion injury. Interestingly, the CT scan of the abdomen showed bilateral high attenuation masses in both adrenal glands with high Hounsfield Units (HU) of >50 with slow contrast wash out, suggestive of bilateral adrenal haemorrhages (Fig. 1, 2). His 9 AM cortisol levels were 154 and 157 nmol/L (Reference range: 185-624 nmol/L), which were inappropriately low, in keeping with a diagnosis of primary adrenal insufficiency. Urine and metanephrines and catecholamine levels were within normal limits. He was given IV hydrocortisone 50 mg four times a day with fluid replacement for the initial few days followed by hydrocortisone 10 mg twice a day along with fludrocortisone 50 mcg once a day. Since then, he presented to hospital multiple times and repeat CT scans of the abdomen have showed stable reduction in the size of adrenal haemorrhages. Before he could be investigated for the cause of adrenal haemorrhages, he unfortunately passed away after a few months due to hospital acquired pneumonia. The cause of bilateral adrenal haemorrhages remained unknown, but was likely triggered by the use of dual anti-platelets and low molecular weight heparin.

Bilateral Adrenal Haemorrhage (BAH) is life-threatening, rare and has been associated with trauma, stress caused by sepsis and hypotension, surgery, anticoagulation, pregnancy, tumour, and haematological disorders like thrombocytopenia.[1] Rarely, it can occur spontaneously after

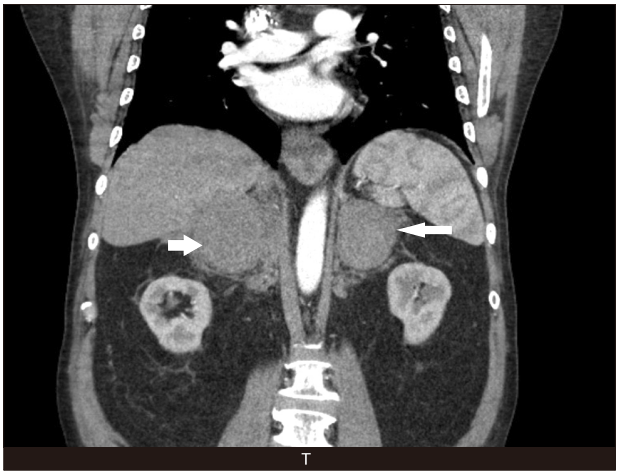

FIG. 1. The coronal section of the CT scan of abdomen showing Bilateral Adrenal Haemorrhages.

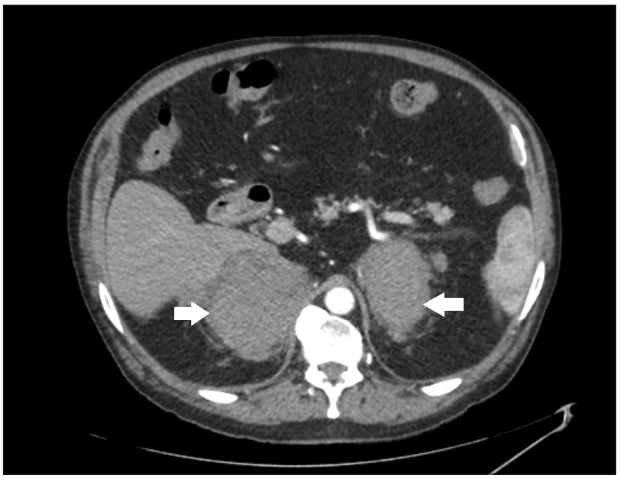

FIG. 2. Transverse section of CT scan of abdomen showing Bilateral Adrenal Haemorrhages.

Corresponding Author:
Kalyan Mansukhbhai Shekhda
Department of Diabetes and Endocrinology, Southend University Hospital NHS trust, Prittlewell Chase, Westcliff-on-Sea SS0 0RY, United Kingdom
Tel: +44-1702435555, Fax: +44-1702385856, E-mail: kalokly@gmail.com

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an interventional cardiac procedure, as seen in our case.[2] Adrenal Glands have a rich arterial supply provided by three different arteries, in comparison to limited venous drainage, which is critically dependent on a single vein.[3] During acute physiological stress situations, cortisol production and blood flow to the adrenals can rise significantly, which subsequently can lead to venous congestion due to limited venous drainage, culminating in haemorrhagic necrosis. In one review of all cases of adrenal haemorrhage reported in the literature up-to 2010, 17% of cases had a haematoma, whereas 50% of patients had pheochromocytomas and 20% were malignant masses.[4] This case highlights the importance of recognising possible adrenal insufficiency due to adrenal haemorrhage in patients who are at risk and present with postural dizziness and fall. Morning cortisol levels and a short synacthan test is useful to diagnose the condition.

CONFLICT OF INTEREST STATEMENT

None declared.

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