Case of the Week

LAPAROSCOPIC APPROACH FOR THE ADRENAL MASSES: A MULTIDISCIPLINARY TEAM WORK DONE TO THE LEVEL OF PERFECTION!

Adrenals are the endocrine glands sitting at the top of both the kidneys in a normal human body. These are necessary for normal hormonal milieu and need to be preserved as much as possible unless indicated. Occasionally these may get converted into tumours which may manifest with either raised blood pressures or with manifestations of raised glucocorticoid levels in the body. Rarely these may get converted into cancerous growths and may have a very bad outcome. Majority of the times these are detected incidentally on the sonography of the abdomen which merits further investigations per protocol. The first step of the evaluation process is a CT scan of the abdomen, which helps in understanding the architecture. The second step would be ruling out functionality of hormonal secretions to rule out three types of tumours: pheochromocytoma, Conn's syndrome and tumour secreting glucocorticoids. This needs cross speciality support from Endocrinology, surgical and the anaesthesia team.

A 52-year-old gentleman diagnosed with incidentally detected 7 x 6.7x 5.7 cm right side adrenal mass was worked up per protocol (Figure 1, 2). Functional evaluation did not show any direct hormonal secretions [Cortisol morning - 84.9 ng/ml (50-250 normal range), Plasma free metanephrine - 7.4 pg/ml (< 65 normal range), Plasma-free nor metanephrin - 149 pg/ml (<196 normal range), DHES - 87.5 mcg/dl (44.3-331 normal range)]. Contrast enhanced CT scan suggested myelolipoma of the adrenal gland which is generally a tumour comprising of fat tissue density. Biopsy from these tumours is generally difficult to access and does not rule out cancer completely plus there is a risk of tumour cell dissemination. After thorough discussion the patient was offered removal of this mass surgically explaining the necessity, indications and implications for future follow up. Open versus laparoscopic versus robotic approaches were valid for him and were discussed in details. He was optimised by the Endocrinology team for his blood pressure with very close and diligent monitoring of the blood pressure parameters.

Patient underwent a laparoscopic right side adrenalectomy through keyhole incisions, with total operative timing of 90 minutes, and the blood loss being 50 ml (Figure 3). There is always a risk of intraoperative rise in blood pressure while handling such tumours and anaesthesia team needs to be vigilant while monitoring the same to tackle the blood pressure changes. Surgery was uneventful and patient was shifted back to the ward, without any requirement of intensive care unit monitoring. Patient was started on a diet the very same day, and was mobilised the next morning. Blood thinner medications were started on second post-operative day, and patient was discharged within 48 hours of the surgery. Histopathology was suggestive of myelolipoma of size 7 cm which is a benign tumour of the adrenal gland.

Laparoscopic approach or robotic surgery for adrenal masses helps us utilise the advantages of minimally invasive surgery to the maximal extent. Procedure is fairly painless with fast track recovery and early discharge. The keyhole procedure replaces the conventional large rib cutting incision and resulting in a painless postoperative recovery. Conventionally, masses less than 4-5 cm were generally offered laparoscopic removal, however with the advances in technology and expertise, even larger masses, 7 cm in this case, can be safely removed maintaining all the advantages of the keyhole surgery.1 Multidisciplinary team is required for managing such challenging

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tumours: Uro-oncologist, Endocrinologist and Anaesthesia team. Clinical pearls from this case would be spirited team work, thorough preoperative evaluation and optimisation of patient and adequate technical skills and most importantly patient counselling and understanding.

Reference

1. Giovanni Conzo, Daniela Pasquali, Cristina Della Pietra, et al. Laparoscopic adrenal surgery: ten-year experience in a single institution. BMC Surg 2013; 13(Suppl 2): S5.

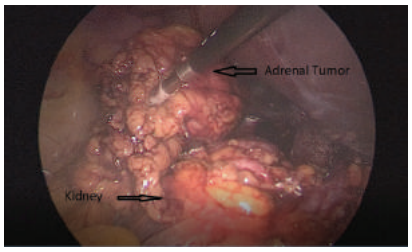

Figure 1

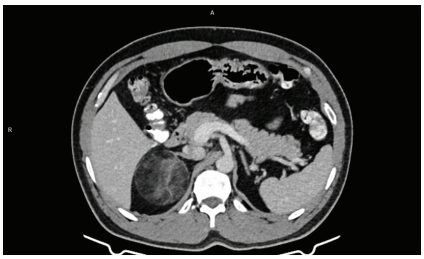

Figure 2

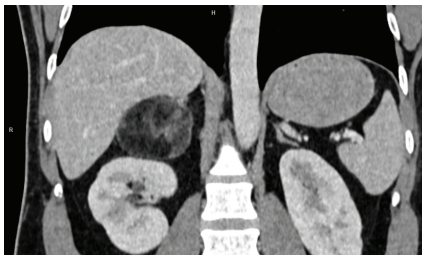

Figure 3

SURGERY AT APOLLO HOSPITALS IS SAFE

Clinical Team

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