



Robot assisted laparoscopic excision of a paraganglioma: new therapeutic approach

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ABSTRACT

The Paraganglioma is the most common extra-adrenal pheochromocytoma arising from neural crest (1) (It will better to write: The paraganglioma is an extra-adrenal pheochromocytoma arising from the neural crest. 10% of pheochromocytomas are extra-adrenal and can arise from chromaffin tissue derived from primitive neuroectoderm). Minimally invasive techniques allow surgeons to perform the procedure without wide exposure and mobilization of intra abdominal organs. To our knowledge we present the third case of robotic excision of a retroperitoneal paraganglioma (2,3).

MATERIAL AND METHODS

A 31 years old male with incidental 3 x 3 cm retroperitoneal mass located between the left renal vein and aorta. Even if serum Neuron-Specific Enolase and chromogranine-A were negative an anti-hypertensive prophylaxis was administered. (Will be worthwhile to add if catecholamines E.g. metanephrines were measured in urine as part of the most common lab tests used when pheochromocytoma is suspected. Also if possible the type of anti-hypertensive drug used). We preferred a retroperitoneal approach. The ureter and the spermatic vessels were identified and not resected. The peritoneum was incised at the level of the tumor and the mass was carefully dissected. The maneu-

ver was difficult because the paraganglioma was characterized by many small vessels leading to the lesion, unlike adrenal pheochromocytoma where a definite pedicle may be identified. Robotic surgery allowed to identify the vascular branches and to clip them with 5mm Hem-o-Lok. The manipulation of the mass caused some hypertensive peaks up to 240/130mmHg. For this reason, we were forced to perform a step by step dissection. Finally, the tumor was inserted into an EndoBag and retrieved from the optical trocar.

RESULTS

Operative time was 120 minutes; estimated blood loss was less than 50cc. No complications occurred. After surgery the blood pressure was normal. Patient was discharged on postoperative day 2. Final histopathological exam showed paraganglioma (a short pathology description would be helpful to add a little more information to the video case report).

CONCLUSIONS

The robotic excision of paraganglioma is a safe (a comment on the extremely high blood pressure during surgery should be added in order to show that this could be a high risk surgery when precautions prior to surgery are not made) and efficacious surgical strategy.

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EDITORIAL COMMENT

In the video by Dr. Cochetti and colleagues, a robotic assisted laparoscopic excision of a paraganglioma is well illustrated constituting the third such reported case in the scientific literature.

Paragangliomas are not common, they represent only 10% of the pheochromocytomas in adults. The diagnosis requires a high index of clinical suspicion. In this context, a very thorough history taking and physical examination to look for signs and symptoms of catecholamine excessive release in those patients with functional lesions is pivotal. This will be critical as the patient will need pre-operative antihypertension management in order to avoid potential elevations of blood pressure and tachycardia leading to potential catastrophic hemodynamic sequelae in the peri-operative period.

As with other surgical procedures, minimally invasive techniques offer not only cosmetic advantages but also a quicker recovery and less surgery related pain. In the case of paragangliomas, minimally invasive surgery will add improved optics and 3-dimensional visualization of the incipient lesion, with surgical magnification of important anatomical structures including feeding (arterial and venous) vessels whereby avoiding excessive manipulation of the paraganglioma that can have far reaching implications pertaining to patient outcome.

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