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Posterior Retroperitoneoscopic Bilateral Adrenalectomy: A New Standard for Bilateral Pheochromocytoma? (with video)

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Abstract
Introduction: Bilateral adrenal involvement occurs in about 20% of pheochromocytomas, more commonly in genetic syndromes like MEN2A (Multiple Endocrine Neoplasia 2A). Posterior retroperitoneoscopy surpasses the disadvantages of the other laparoscopic approaches, being particularly useful when bilateral adrenalectomy is indicated. The aim of this study was to present the first published experience in Romania with posterior retroperitoneoscopic bilateral adrenalectomy in the treatment of bilateral pheochromocytoma.
Materials and Methods: We report the case of a 47-years-old female referred in Urology department for surgical treatment of bilateral pheochromocytoma in the setting of MEN2A syndrome (her daughter and sister with the "high risk" mutation in RET gene) for which she has been actively screened. The ultrasound of thyroid gland and the significantly increased serum calcitonin were highly suggestive for medullary thyroid carcinoma. The computed tomography of chest/abdomen/pelvis revealed inhomogeneous, contrast-enhancing bilateral adrenal masses, 38/38 mm on the right and 36/26 mm on the left side, respectively. The free plasma metanephrines were significantly increased. After adequate preoperative preparation of the patient, we performed bilateral adrenalectomy using posterior retroperitoneoscopic approach, during the same procedure.
Results: The total operative time was 90 minutes. The estimated blood losses were minimal. The postoperative surgical evolution of the patient was uneventful. Major cardiovascular and metabolic perioperative complications were prevented by anesthesia team. The lumbar drain was removed in the postoperative day 1. The pathology results reported negative surgical margins, PASS score of six on the left side and two on the right side, respectively. Three months later, the patient underwent total thyroidectomy with cervical lymph node dissection for medullary thyroid carcinoma (pT1bN0L0V0Mx). The last clinical and imaging evaluation (at 12 months postoperatively) revealed no evidence of tumour recurrence.
Conclusion: Posterior retroperitoneoscopic adrenalectomy is a direct, painless, cosmetic and feasible technique and the ideal option when bilateral procedure is considered. To our knowledge, it is the first publication regarding bilateral adrenalectomy in Romania using this approach.
Key words: bilateral adrenalectomy, pheochromocytoma, posterior retroperitoneoscopic adrenalectomy, laparoscopy, MEN2A syndrome