Pheochromocytomas and paragangliomas: association between tumor size and measurements of metanephrines and catecholamines

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INTRODUCTION

• Pheochromocytomas (PHEO) and Paragangliomas (PGL) are rare catecholamine-secreting tumors.
• Some authors proposed that there is a positive linear relationship between tumor size and measurements of metanephrines, and an absence of association with catecholamine levels.

OBJECTIVES

• To review and characterize patients diagnosed with PHEO and PGL in Garcia de Orta Hospital.
• To determine the relationship between tumor size and measurements of urinary total metanephrines and total catecholamines.

METHODS

• Retrospective study with revision of medical records, between 1992 and 2013.
• Statistical analysis was performed by simple linear regression using SPSS 20.

RESULTS

• 23 patients with PHEO and PGL

  • Genetic syndromes:
    - Multiple endocrine neoplasia type 2A (3 patients)
    - Neurofibromatosis type 1 (2 patients)
    - Familial PGL type 4 (1 patient)

  • 2 bone (multiple)
  • 1 lymph node (multiple)
  • Persistence of disease despite additional therapy

  Gender

  Mean 45.8 ± 15 years

  Age at diagnosis

  Tumor localization

  Follow-up after surgery

  • Tumor size

  Mean 6 ± 3 cm

  Urinary total metanephrines

  Mean 4.1 ± 5.6 x ULN

  Urinary total catecholamines

  Mean 5.5 ± 6.5 x ULN

  Association size and metanephrines

  Association size and catecholamines

  Strong positive linear relationship

  No linear relationship

CONCLUSION

• This study suggests that an increase in the size of PHEO and PGL is related with a rise in metanephrine levels; an association with catecholamines was not demonstrated. These differences may be related to the fact that the secretion of catecholamines is intermittent, whereas metanephrine formation is a more continuous process.

REFERENCES