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VALUE OF F-18 DOPA PET-CT SCAN IN PHEOCHROMOCYTOMA: FIRST EXPERIENCE IN INDONESIA.

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INTRODUCTION

Pheochromocytoma is a rare cathecolamine-producing neuroendocrine tumor arises from adrenal medulla. Functional imaging plays important role in pheochromocytoma management.

OBJECTIVE

This is a case report of 22 years old female with pheochromocytoma underwent right adrenal resection.

CASE

Despite of the surgical intervention, patient still in hypertensive condition, and was referred for I-131 MIBG scan, which was positive for left femur metastasis. The patient then underwent radiation therapy and given zoledronic acid for the metastasis. Another I-131 MIBG scan was conducted for post-radiation therapy evaluation, still positive for the metastasis. The patient continue the zoledronic acid treatment for one year and and her blood pressure returned to normal afterward. The patient remained in good clinical condition and was referred for monitoring one year later. However, due to I-131 MIBG shortage in Indonesia, F-18 DOPA PET-CT scan was performed, which showed stable disease.

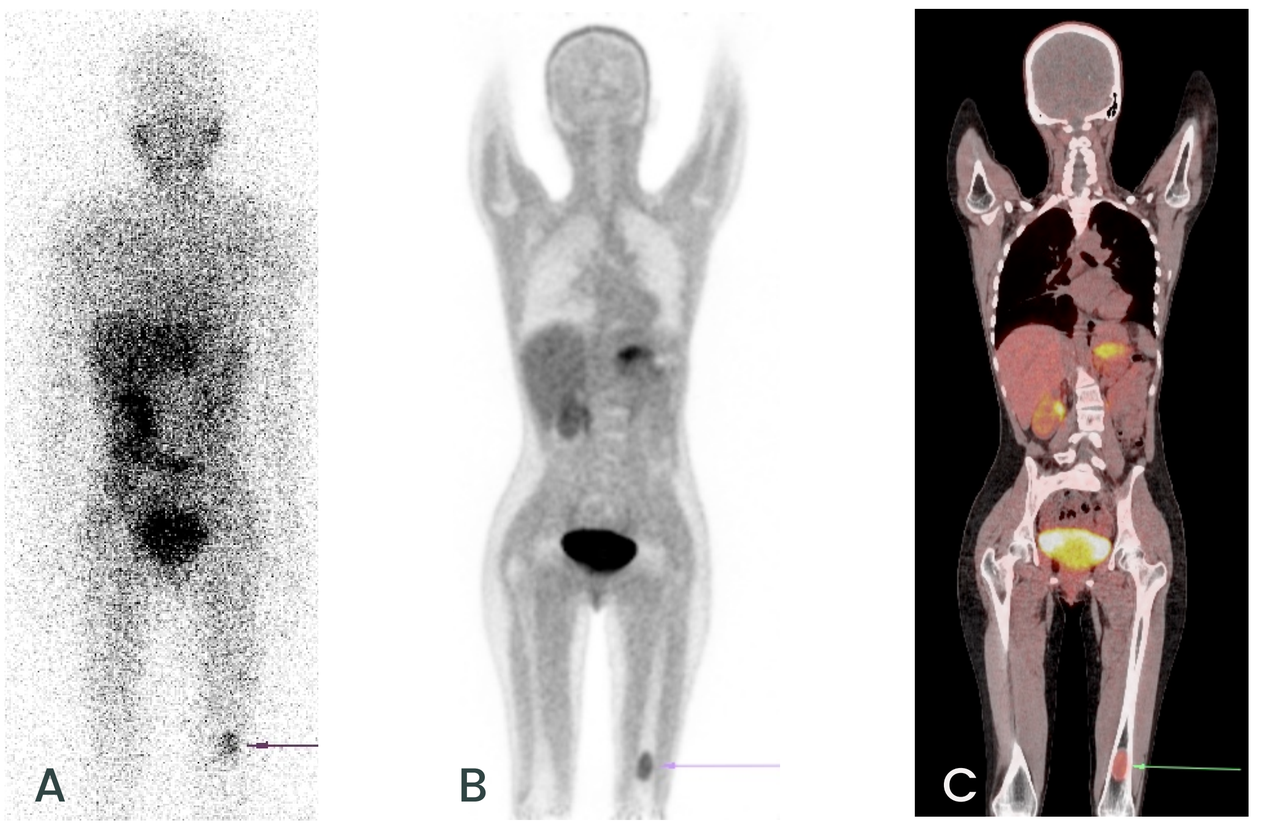
DISCUSSION

While many guidelines recommend Somatostatin Receptor (SSR) PET-CT, FDG PET-CT, or MIBG Scan for evaluation, F-18 DOPA PET-CT scan has advantages for pheochromocytoma evaluation. F-18 DOPA specifically taken up by pheochromocytoma cells through binding with LAT1 then follows the metabolic pathways of L-DOPA. Unlike MIBG and other PET tracer, F-18 DOPA show lack of significant uptake in the adrenal gland. F-18 DOPA also has fewer drug interaction compared with MIBG and DOTA-peptide.

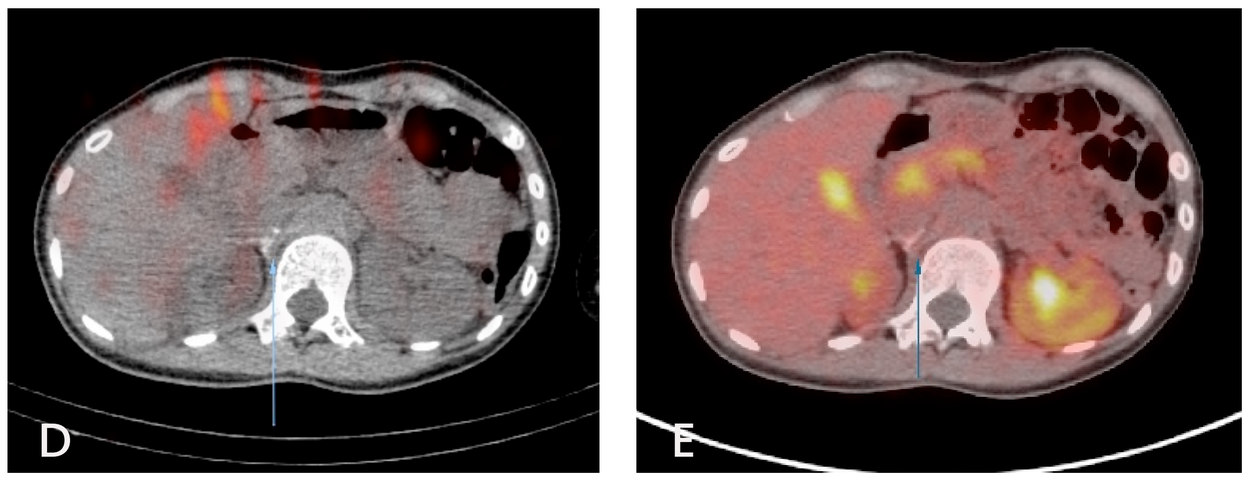
CONCLUSION

Choosing the most relevant modality can be challenging. F-18 DOPA, when available provides several advantages for pheochromocytoma evaluation.

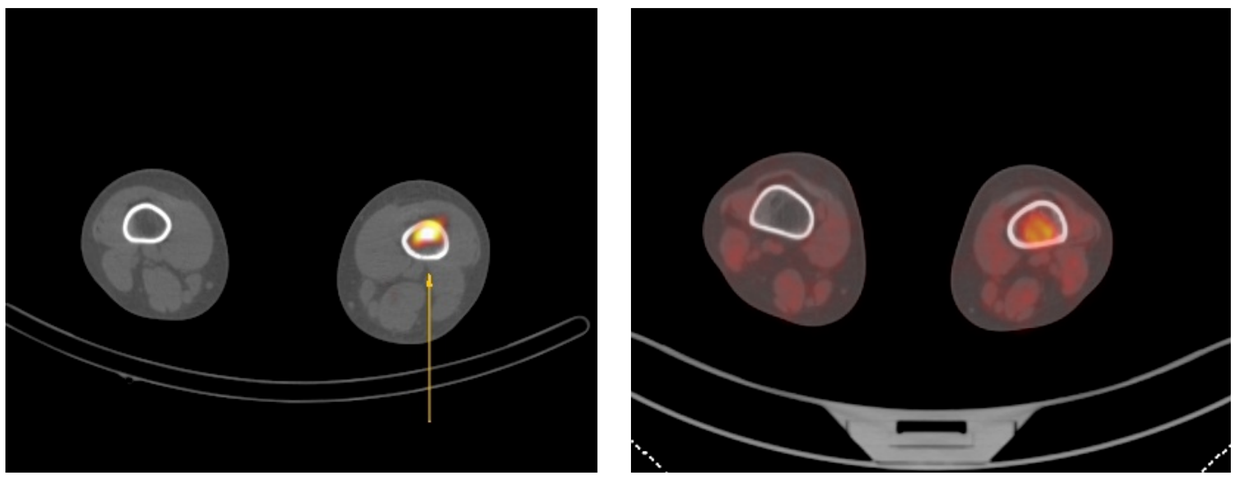
Keywords: pheochromocytoma; F-18 DOPA; MIBG, neuroendocine



A: I-131 MIBG Scan after radiation therapy still positive for left femur metastasis. B and C: F-18 DOPA PET-CT Scan for follow up showed stable disease.



D: I-131 MIBG Scan. E: F-18 DOPA PET-CT Scan showed no residual disease on supra-renal.



D: I-131 MIBG Scan. E: F-18 DOPA PET-CT Scan showed stable left femur metastasis.

RELATED LITERATURE

Iversen, P., Kramer, S., Ebbehoj, A. et al. [18F]FDOPA PET/CT is superior to [68Ga]DOTATOC PET/CT in diagnostic imaging of pheochromocytoma. EJNMMI Res 13, 108 (2023). https://doi.org/10.1186/s13550-023-01056-4

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