

BEYOND MALIGNANCY: A PICTORIAL GUIDE TO INFLAMMATORY AND GRANULOMATOUS DISORDERS ON FDG PET CT

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INTRODUCTION

FDG PET-CT can unmask sites of inflammation apart from active cancer. This is because inflammatory cells upregulate GLUT receptors which trap FDG and hence show up avid on PET-CT.

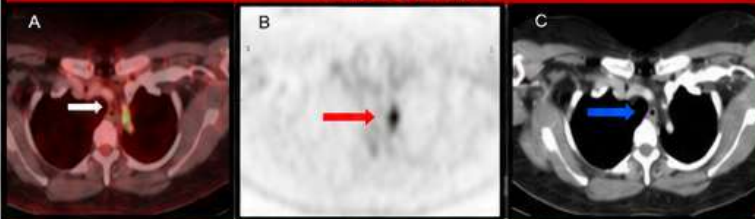
OBJECTIVES

To illustrate a spectrum of FDG uptake inflammatory and granulomatous disorders, incidentally found on PET-CT done for malignancies

METHODS

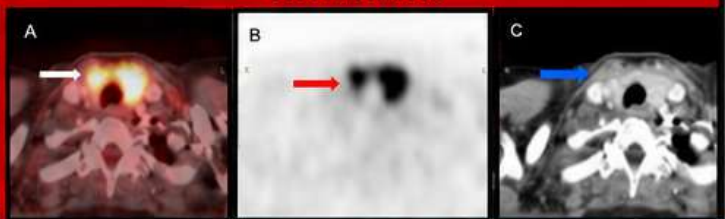
FDG PET CT scans were reviewed using Hospital Information System at Shaukat Khanum Hospital Lahore from 2011 to 2026 to look for findings not related to malignancy

VASCULITIS



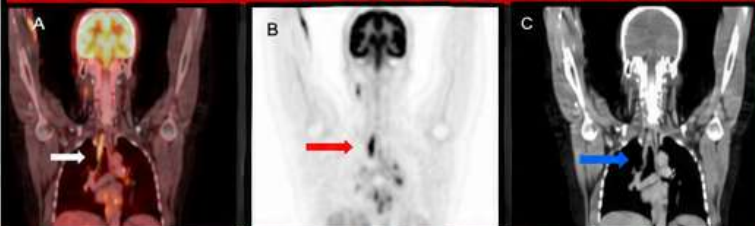
50, F. undifferentiated connective tissue disorder Fusion [A] and PET [B] images showed a focal uptake around origin of left common carotid artery without obvious intimal thickening on low dose CT [C], concerning for vasculitis.

THYROIDITIS



40, F. Metastatic breast carcinoma. Diffusely increased uptake in thyroid was suggestive of thyroiditis. Thyroid function tests revealed hypothyroidism.

SARCOIDOSIS



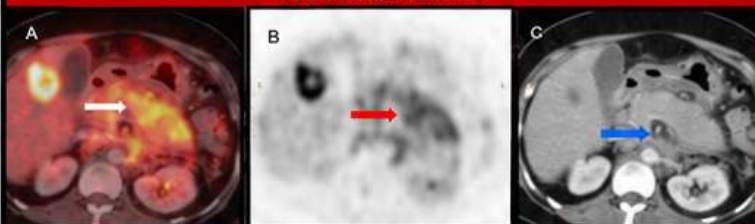
45, F. esophageal carcinoma, Fusion [A] and PET [B] images showed multiple avid mediastinal nodes. Biopsy showed granulomatous inflammation, consistent with sarcoidosis.

IgG-4 RELATED DISEASE



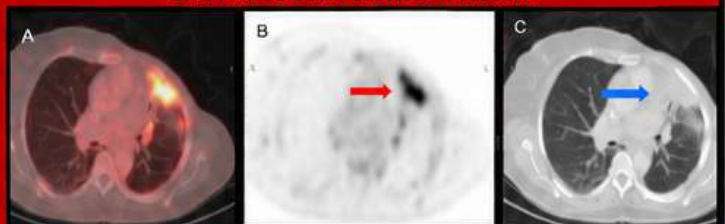
41, M. IgG 4 related disease. Fusion [A] and PET [B] images showed multifocal uptakes in bones with underlying sclerosis on low dose CT [C].

PANCREATITIS



47, F. Right breast carcinoma. Fusion [A] and PET [B] images show increased uptake in pancreas which appears swollen on CT component [C], highly concerning for pancreatitis. Confirmed by significantly increased serum amylase and lipase levels.

RADIATION PNEUMONITIS



54, F. Left breast carcinoma. Post surgery and XRT. Fusion [A] and PET [B] images show increased uptake in left upper lung, corresponding to collapse and radiation pneumonitis on low dose CT [C]

CONCLUSION

FDG PET CT has an important role beyond oncology. Not all avid disease counts as malignancy. Familiarity with imaging patterns of inflammatory and granulomatous disorders helps reporting physicians improve diagnosis and avoid misinterpretation as malignancy

