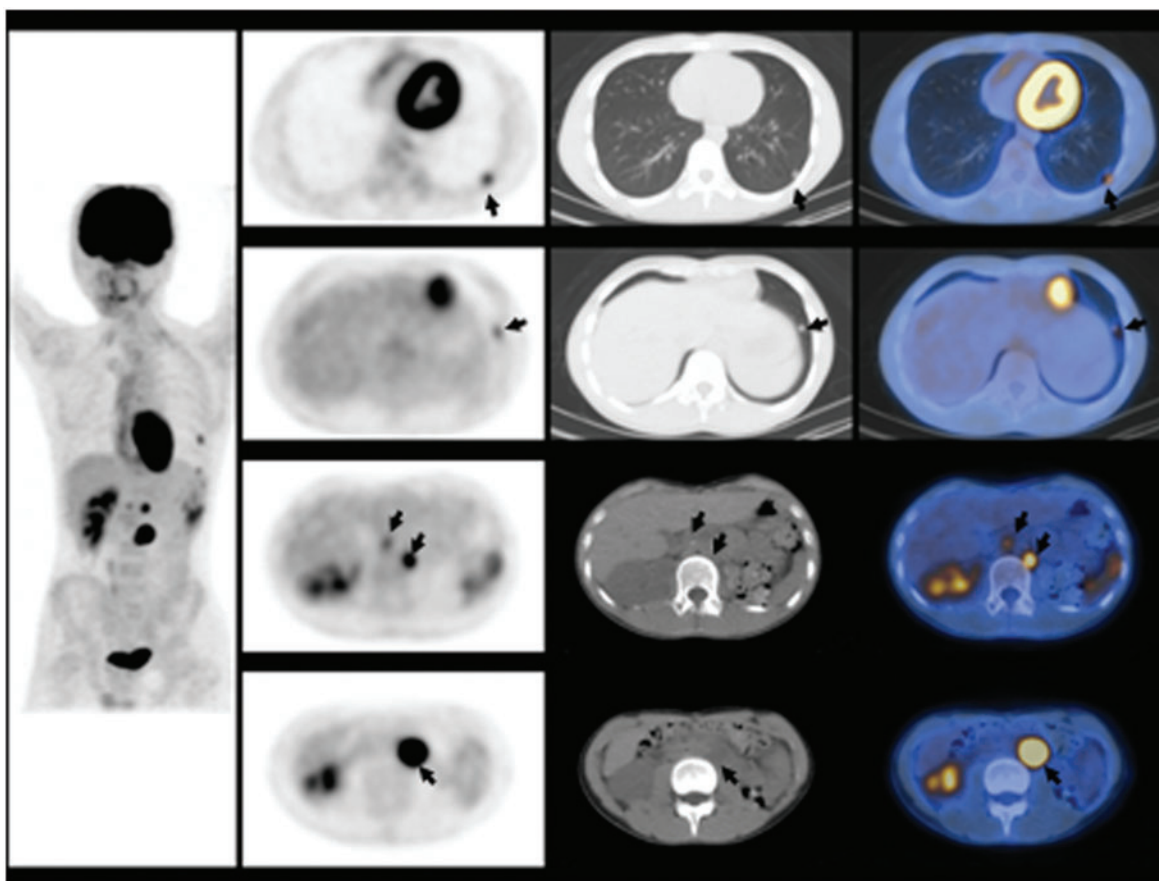


## CLINICAL PICTURE

## Lung metastasis and pheochromocytomas: Detection using FDG PET/CT

A 14-year-old boy, who had undergone a left adrenalectomy for a pheochromocytoma (PCC) 4 years earlier, suffered from a dull sensation in his head and flushing of the face. He was referred to our hospital to evaluate a disease recurrence.

With the use of Positron emission tomography/computed tomography (PET/CT) imaging, hypermetabolic lesions were observed in five locations (Figure 1): three locations in the bilateral para-aortic region and two locations in the left lower lung.



**Figure 1.** With the use of PET/CT imaging, hypermetabolic PCC lesions were observed in five locations (shown by arrows): three locations in the bilateral para-aortic region and two locations in the left lower lung. Upper two rows: Two hypermetabolic PCC lesions in the left lower lung. Lower two rows: Three hypermetabolic PCC lesions in the bilateral para-aortic region. Left: Maximum intensity projection image (MIP) in FDG (18F-FDG or fluorodeoxyglucose) PET (Positron emission tomography). Left column: Axial views of FDG PET. Middle column: Axial views of CT. Right column: Axial views of FDG PET/CT (18F-FDG PET/CT) fusion images.

After a thoracotomy, a pathology report confirmed that the lung lesions were metastases from the PCCs.

To our knowledge, the application of PET/CT scanning in the restaging of adolescent PCC is not frequently reported.<sup>1-3</sup> In routine examinations, the detection of PCCs is generally performed using CT or magnetic resonance imaging (MRI) first. If the results are unsatisfactory, metaiodobenzylguanidine (MIBG) scintigraphy is typically performed next.<sup>4</sup> PET/CT is a useful alternative approach to CT, MRI and MIBG scintigraphy and exhibits better resolution than scintigraphic methods.<sup>4,5</sup>

We recommend that PET/CT imaging be performed first for adolescent PCC patients to detect potential lung lesions. To reduce the level of radiation exposure that occurs as a consequence of repeated CT examinations for suspicious small recurrent foci, the recommended PET/CT imaging should be unenhanced and performed with low radiation dosage at 20 mAs, which is the lowest radiation threshold of our CT scanner.

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