Pictorial CME

PET-CT Scan Appearance in Aortoarteritis

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Headache is one of the commonest symptoms in medical practice[1]. In different studies, it has been seen that headache can account for up to 10% of all GP visits and up to 33% of all neurology referrals[1]. While the majority of headaches comprise of primary causes like Migraine, there are some secondary causes which need elimination. We here describe one such secondary headache with the diagnostic imaging details.

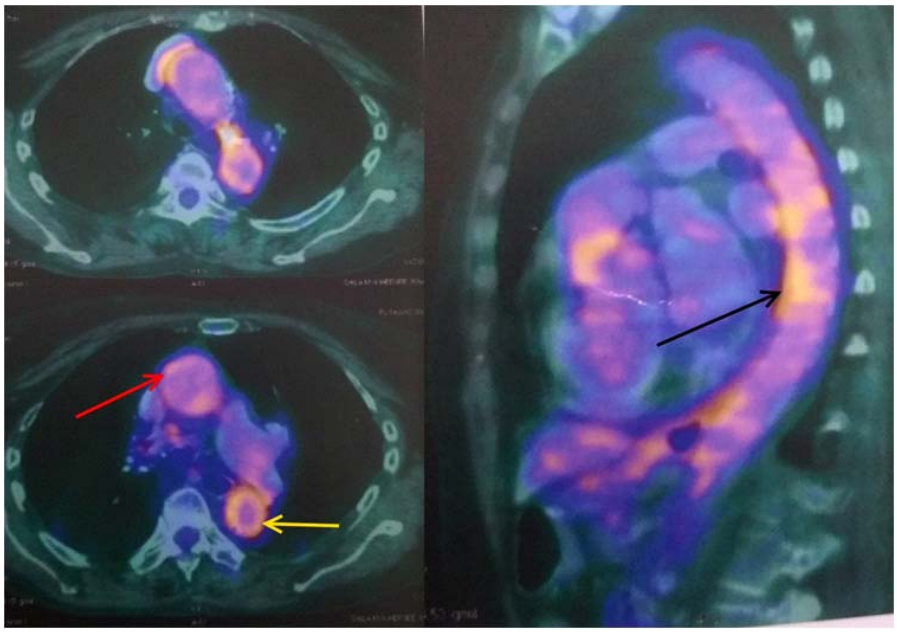

Fig 1 — PET-CT appearance of Aortoarteritis in the patient showing wall thickening with increased FDG uptake in ascending aorta (Red arrow), descending aorta (Yellow arrow) and thoracic aorta (Black arrow)

The Report :

An 80-year-old woman complained of recurrent severe holo-cranial headache for two months. She was a known hypertensive, on two anti-hypertensive drugs. There was no past or recent history of head trauma, fever or vertigo. The headache was self-described by the patient as "nagging most of the times with intermittent bursts of severe pain". The pain was often present at night and it disturbed sleep. At presentation this time,the pain was described as 7/10 in VAS (VisualAnalog Scale).

There was no local temporal tenderness. All cranial nerve functions, including vision were normal. There was also no focal neurodeficit or pyramidal signs. All peripheral pulses were palpable and symmetrical.

A contrast enhanced CT scan of the brain was normal, ruling out any SOL or infective focus. Finally, in view of the persistent headache, a PET-CT scan of the great vessels was done. This revealed (Fig 1) that the ascending aorta, aortic arch, descending aorta, subclavian and axillary artery walls were thickened (maximum wall thickness of descending thoracic aorta being 6 mm) with increased FDG uptake (SUV_{max}: 4). Walls of bilateral common carotid arteries were also thickened with SUV_{max} 3.6. Walls of abdominal aorta, renal arteries and bilateral common iliac arteries were also thickened (Max. wall thickness of abdominal aorta: 4 mm), with SUV_{max} of 3.8. The PET-CT features were suggestive of aortoarteritis. There was no luminal narrowing. There was mild para-aortic fat stranding and a few inflammatory lymph nodes in the mediastinum.

Large vessel vasculitis has no definite serological test for diagnosis. The diagnosis rests on the tripod of clinical suspicion, assessment of response to steroids and recently, some imaging studies. *Of the imaging studies, the most useful is PET-CT scan.* FDG PET scan can detect not only the site of vascular inflammation, but also the degree of inflammation[2]. Thus, this is not only useful for detection of the condition, but also for follow up and early diagnosis of recurrence[2]. The exact cut-off for SUV max to detect active aortoarteritis varies with the researcher, but the generally accepted cut-off level is approximately 2.1[2,3]. By comparison, the SUV max of vessel walls in our patient was above 3.5 at all sites.

References

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