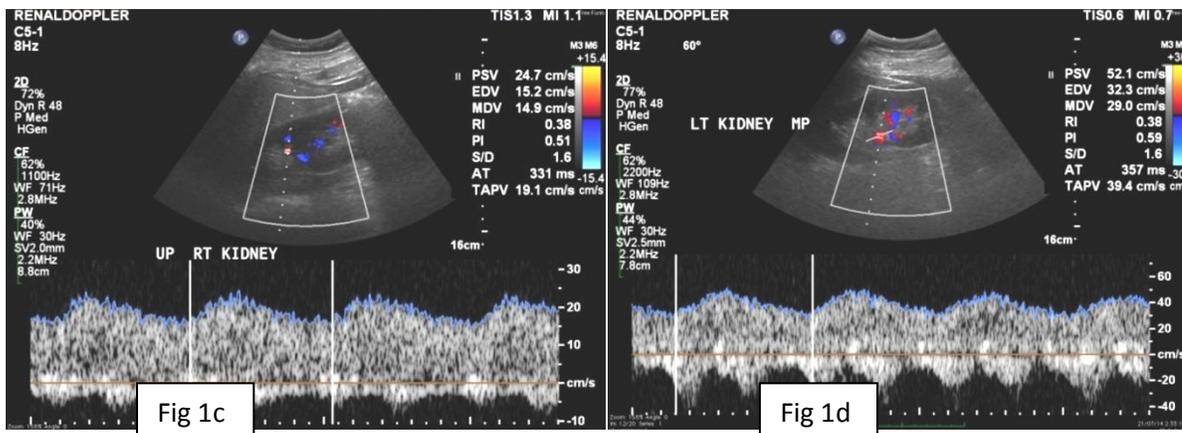
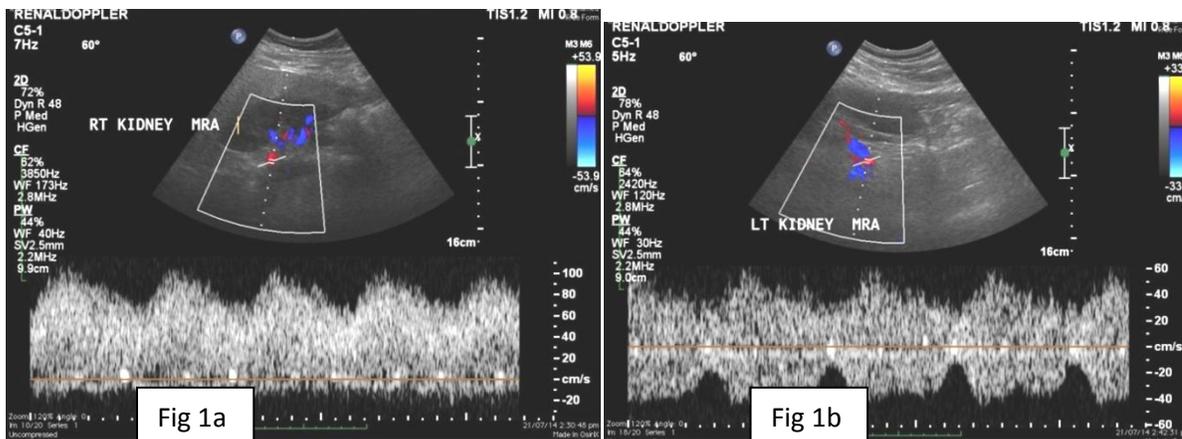


Incidental diagnosis of Aortic Coarctation by Tardus-Parvus flow in Renal Doppler.

A 29 year-old male with secondary hypertension was referred to our facility. The patient had no family history or risk factors for hypertension. During the physical examination the patient's blood pressure (BP) measured 180/110 in both arms.

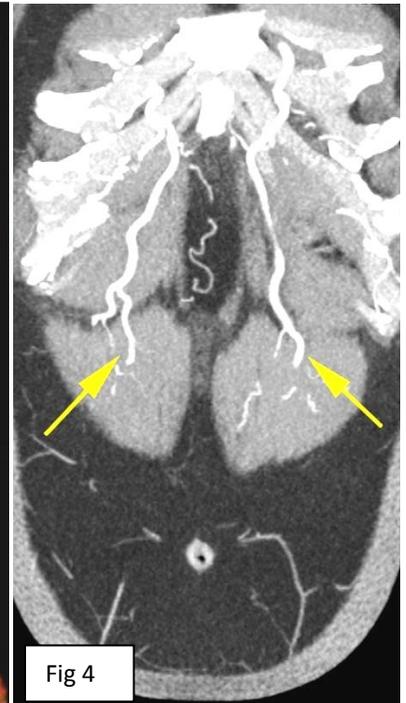
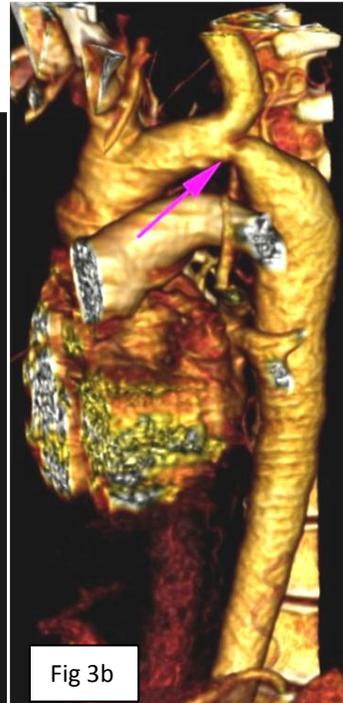
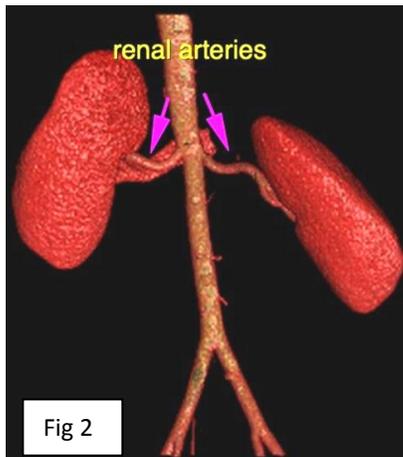
Renal Doppler sonography was performed to rule out renal artery stenosis. Severe tardus parvus waveforms were noted in both renal and intrarenal arteries with absence of early systolic peak, along with diminished amplitude of the waveforms (Fig.1a,b,c,&d.). Noted delayed acceleration time which also indicates stenosis of proximal artery



Subsequently **Aortic angiogram** was performed to evaluate proximal and supra-diaphragmatic vessel abnormality. Findings:

- Short segment of moderate to severe degree shelf-like narrowing noted in aortic arch, just beyond origin of left subclavian artery (Fig 3a/b). Mild post-stenotic prominence of the descending aorta noted. Rest of the descending thoracic aorta and abdominal aorta and its branches appear normal in course and calibre.
- Intercostal vessels - mildly prominent.
- Renal arteries and their branches - normal in course and calibre. There is no evidence of focal area of stenosis noted (Fig 2).

- Noted tortuous and engorged superior-epigastric arteries along the abdominal wall (Fig 4).



Final Diagnosis: Coarctation of Aorta.

Coarctation of the aorta (COA) is a congenital malformation, which can lead to systemic hypertension. Hypertension caused by COA is known to be resistant to medical therapy, hence early detection and surgical correction are important. Although discrepancies between arm and leg BP and the presence of bruits due to narrowing lesions can aid in the diagnosis of COA, sometimes these signs are not obvious or can be overlooked.

Renal Doppler sonography is a useful and frequently used tool to evaluate secondary hypertension. Bilateral tardus-parvus wave patterns in intrarenal / renal arteries should raise the suspicion of aortic stenosis, and COA should be considered. Additionally, engorged collateral circulations, such as in the internal thoracic artery, intercostal artery, or superior epigastric artery, can further help in the diagnosis of COA

Regards,

Dr. Deepa S. Nadkarni / Dr. Shaikh M. Mazhar

N.B: This case is authentic and from the archives of Radiance Diagnostics. For any queries/suggestions/feedback write to us at radiance@radiancediagnostics.in. Case of the month can also be accessed anytime online at **VIEW BOX** at www.radiancediagnostics.in