



AN INTERESTING CASE OF HYPERTENSION-PICKERING SYNDROME

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ABSTRACT

A case of 60year old post-menopausal female known case of hypertensive since 15years and dyslipidemia presented with refractory hypertension,flash pulmonary edema.ECG showing LVH with strain pattern.Renal artery angiogram showing bilateral renal artery stenosis,revascularisation and stent placement was performed resulting in relieving her cardio-pulmonary symptoms and sucessful BP control

KEYWORDS : refractory hypertension,flash pulmonary edema,renal artery stenosis,stent placement

INTRODUCTION:

Renal artery stenosis [RAS] is the most common cause of secondary hypertension accounts for approximately 2-4% of all causes of hypertension.90% RAS are caused by atherosclerosis, athrosclerotic RAS is common in aging populations, particularly elderly people with diabetes, hyperlipidemia, coronary artery disease and hypertension. Three therapeutic options are currently available for patients with renovascular hypertension:medical anti-hypertensives therapy,surgical revascularisation and transluminal angioplasty with stent implantation.

CASE REPORT:

60 Year old post menopausal obese female presented with complaints of chest discomfort since 2 days with acute onset of breathlessness since 1 hour,associated with bilateral lower limb swelling and palpitations.Known case of dyslipidemia and hypertensive since 15 years on Tamlodipine for 10 years, later her BP subsequently was controlled by T.amlodipine, T.hydrochlorothiazide, T.metoprolol. On examination blood pressure of 220/110mm Hg in left arm supine position and Pulse rate of 125 beats per min,regular,thickened vessel wall with Spo2 of 95% with 5L O2/min.Cardiovascular system examination reveals raised JVP with no murmurs heard.Respiratory system reveals fine end inspiratory crackles in infrascapulararea.other systemic examination is unremarkable.ECG reveals LVH with strain pattern, troponin -negative.Laboratory investigations reveals proteinuria [+]. Patient is started on inj.furosemide,nitroglycerin infusion and statin. Despite 3 different classes of anti hypertensive medication, including a diuretic the patient BP was persistently elevated.In view of her refractory hypertension a secondary work up was initiated.S.catecholamines within normal limits,Over night oximetryrevealed no sleep apnea,High renin & aldosterone level,Normal alosterone / renin ratio.CTA of chest & abdomen was performed to exclude pulmonary embolism,revealed an incidental finding of 90% stenosis of right renal artery and 80% stenosis of left renal artery.She subsequently underwent bilateral angiogram which confirmed the diagnosis of bilateral renal artery stenosis[figure 1].Finally with flash pulmonary edema with bilateral renal artery stenosis diagnosis of PICKERING SYNDROME was made. Patient underwent stenting, re-vascularisation and stent placement was performed succesfully[figure 2],which resulted in relieving of her cardio-pulmonary symptoms with successful BP control and preserved renal function in following 2 months.USG doppler measurement was performed after

procedure,RRI was 0.7.On follow up patient was on T.aspirin, T.clopidogrel, T.atorvastatin, T.amlodipine and T.hydrochlorthiazide



figure: 1



figure :2

DISCUSSION :

Hypertensive flash pulmonary edema (FPE) results from rapid elevation of the left ventricular end-diastolic pressure. Absence of underlying valve disease or cardiomyopathy, it is usually caused by renal vascular disease. It may frequently develop in case of bilateral renal artery stenosis (RAS), unilateral RAS and accompanying functional solitary kidney[1]. However, unilateral RAS with bilaterally functional kidneys may also lead to a clinical picture of pulmonary edema[2]. Most common cause of RAS includes atherosclerosis, fibromuscular dysplasia, and rare causes includes vasculitis, aneurysm and thromboembolism.RAS is more likely if HTN is severe, of recent onset or difficult to control,kidneys are asymmetrical in size,flash pulmonary edema,peripheral vascular disease,renal impairment. Flash pulmonary edema[FPO] is a recurrent, sudden-onset episode of pulmonary congestion. Pickering syndrome refers recurrent FPO and hypertensive episodes largely resulting from bilateral RAS or unilateral RAS with solitary functioning kidney[3]. Atherosclerosis accounts for up to 90% of causes of RAS, especially in the elderly patients with other atherosclerotic cardiovascular diseases[4]. Renal hypoperfusion due to RAS results in activation of renin-angiotensin-aldosterone system, which in turn leads to sodium and fluid retention, aldosterone secretion, activation of sympathetic nervous system, and eventually elevated blood pressure and pulmonary oedema. Long-standing hypertension also contributes to diastolic dysfunction[5]. There has been debate about treatment of haemodynamically significant RAS and current guidelines recommend revascularization for RAS in patients with recurrent FPO or in those with refractory hypertension to optimal medical treatment[4-6].Pickering syndrome is not common, but the mortality of FPO is still very high and recurrent FPO can be prevented by therapeutic intervention

with stenting in patients with RAS-related FPO. Therefore, the diagnosis of RAS should be considered in patients with multiple risk factors of atherosclerosis and episodes of FPO with hypertension.

CONCLUSION:

Here, we report a case of pickering syndrome of an Post-menopausal female, who was managed successfully by renal artery revascularisation and stent placement.

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