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Study of Adrenal Tumours

KEYWORDS

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ABSTRACT *A young female ,who is hypertensive for the last 4 years on multiple antihypertensives and diabetic presented with right sided flank pain ,fever and vomiting. Presumptive diagnosis of right sided pyelonephritis was made and on imaging incidentally detected to have left sided adrenal mass. All investigations were with in normal limits incliding 24 hr urine metanephrine. CECT showed a cystic mass over left adrenal. On table ,patient had hypertensive and hypotensive episodes. HPE report suggested pheochromocytoma.The sensitivity of 24 hr urine metanephrine is 98% and here we are discussing a case of pheochromocytoma with normal 24 hr urine metanephrine levels.*

INTRODUCTION

Pheochromocytomas are rare catecholamine producing tumours .Usually it is diagnosed by the typical symptoms and the raised 24 hour urine metanephrine values .Here is a case of adrenal incidentoloma with normal 24 hr urine metanephrine level turning out to pheochromocytoma .

CASE REPORT

A 39 year old nullipara presented to us with right flank pain ,fever with chills and rigor and multiple episodes of vomiting of one day duration.She was a k/c/o systemic hypertension for last 4 years and a diabetic for the last 3 months.Clinical examination suggested a provisional diagnosis of right sided pyelonephritis.On taking USG abdomen ,apart from right sided pyelonephritis ,patient was have detected to have a heteroechoic solid +cystic lesion superomedial to left kidney and inferior to spleen.

Patient was admitted in Urologyward and started on iv antibiotics .Case is then evaluated in detail for the incidentaloma of left adrenal .Clinical history in detail revealed onset of hypertension ,4 years back which was detected following an episode of vertigo ,and at the time of detection was around 260/110 mmof Hg and she was started on Losartan and titrated up to losartan and hydrochlorothiazide.Since the BP remained uncontrolled Cilnidipine was added later on.She also experienced to have palpitation ,vertigo and increased sweating episodically.She was evaluated in detail from periphery, which suggested nothing in special .She also complains of constipation for the last 2-3 months and her menstural cycles were irregular for last 3 years.

Detailed laboratory evaluvation was done.Thyroid function tests,serum cortisol levels were within normal limits. Strongly suspecting,pheochromocytoma a 24 hr urine metanephrine was send and it came as normal. A CECT was done and showed Left adrenal mass which is cystic with normal vascularity . She was posted for adrenalectomy and added on prazosin for further control of BP .Preoperatively BP was within normal limits and her sugar levels were controlled with insulin .

On table ,while handling the adrenal there was sudden surge in BP ,which reached above 200 which needed NTG and esmolol infusion.After removing the tumour patient had BP fall which needed ionotropic support.Gross specimen was well encapsulated firm cystic mass of around 6 cm .Patient was kept in ICU for 2 days and gradually weaned from ionotropic support.Post operative period was uneventful and after 2 days no episodes of elevated BP or elevated sugar were noted .Patient was discharged after one week .Histopathology report on review came as phaeochromocytoma .

On review BP was stable and sugar levels wit in normal limits .No further episodes of sweating,palpitations

DISCUSSION

Phaeochromocytomas are catecholamine producing tumors which either arise sporadically or as a part of MEN or other pheochromocytoma associated syndromes .Incidence is estimated as 2-8/million person/year(1).It contributes 0.1-0.6 %of hypertension(2).Usually is locatedin adrenal,right than the left.

Clinical manifestaion are due to effect of physiologic amines produced by the tumour.Almost all pheochromocytomas secrete adrenaline and nor adrenaline ,but very rarely some may release dopa,dopamine ,GIP,serotonin,ACTH , enkephalin ,calcitonin .Smaller tumours usually produce more symptom than the large ones .Catecholamine binding capacity of small tumours is less and more will be poured into circulation and more symptoms will be there .It is vice versa with large tumours .

The most common clinical manifestation is elevated BP ,which can be either susstained or paroxysomal .Even paroxysom of elevation can be there in those having sustained elevation .15-20% will be normotensive(3).Diaphoresis ,palpitation and headache are classical triad of symptoms.Headache ,anxiety,weight gain ,polydipsia,abdominal pain ,nausea,weakness,constipation and there can be orthostatic hypotension as well.

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Diagnosis is based on clinical suspicion and later by radiological and biochemical evaluvation. 98 % of the patients with pheochromocytoma have elevated level of catecholamine or its methylated metabolites in blood/urine(4) . This can be estimated by different assay techniques and if catecholamines or its methylated metabolites are greater than three times the normal by any technique ,it is diagnostic of pheochromocytoma .since the 24hr metanephrine level estimation is so sensitive ,usually diagnose is established through it.

Once the diagnosis of pheochromocytoma is made localise with CT/MRI. In CT usual picture will be a tumour graeater than 2 cm with solid/cystic appearance .

Only effective treatment is surgery .Preoperatively patient should be prepared with an alpha blocker. Phenoxybenzamine is better than prazosin as latter is a reversible blocker .Surgery can be either trans peritoneal ,thoraco abdominal ,extra peritoneal based on size of the tumour . .Intra operatively there is chances of hypertension and hypotension during post operative period . Hypoglycemia also should be expected post operatively .

75% of the patient who had sustained hypertension became normal after surgery and 95% of those with paroxysomal hypertension get clear.Long term follow up with periodical BP check up and annual plasma/urine metanephrine is needed as there is chance for recurrence / metastasis (3).

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