

Resistant Hypertension Due to Pelvic Kidney

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Abstract

High blood pressure is a disease that may be primary or secondary so we should be carefully examine and investigate the patients presented to our clinics with high blood pressure to mainly exclude secondary causes especially when patients are young aged. The case we see here is resistant hypertension due to pelvic kidney. All the investigations and examinations were within accepted ranges except for mal-rotated pelvic kidney with mesenteric blood supply. The case hardly controlled by regular full doses of multidrug antihypertensives more than 5 drugs. The advice was to make nephrectomy to the pelvic kidney by vascular surgeon especially the patient is 29 years old with normal kidney functions and his high blood pressure since he was 15 years old.

Keywords: *Blood Pressure; Hypertension; Pelvic Kidney*

Introduction

Hypertension is a chronic disease may be primary (essential) or secondary to other underlying causes presents as increase in blood pressure or uncontrolled hypertension. Hypertension is elevation of blood pressure than the accepted level to the human body. Blood pressure mostly around 120/80 but sometimes this value may be considered high for some individuals.

Resistant hypertension is difficulty of controlling blood pressure by more than 4 drugs and still blood pressure higher than 130/80 [2].

Causes of hypertension: primary which is familial, genetic and environmental. secondary due to many causes e.g., Hormonal disturbances, pheochromocytoma, local as renal artery stenosis etc. So, we should investigate for all secondary causes of hypertension [1].

Case presentation

The 26 years old male patient hypertensive since he was 19 years old. He never had any investigations for his hypertension at all only prescribed antihypertensive treatment, never controlled by his drugs. He came to clinic with uncontrolled hypertension on multidrug for hypertension. He has positive family history of hypertension (his mother), recurrent attacks of intensive care unit (ICU) for hypertension emergencies and urgencies. The main problem with the patient is persistent headache and blurring of vision. Lately he has anginal attacks before his visit to the clinic with ICU admission.

On the first visit examination

General examination

- Flushed face.

- Dyspnea.
- Blood pressure = 240/140 (with his full treatment).
- Tachycardia Pulse = 110.
- Temperature wit in normal.
- Peripheral pulse felt bilateral.
- No limbs color changes or oedema.

Local examination

- No extra heart sounds with tachycardia regular sinus apical 110 beat/minute.
- Chest clear.
- Abdomen lax.
- No focal neurological manifestations.

Investigations

Laboratories

- Complete blood picture is accepted.
- Creatinine =1.1 (\leq 1.3).
- Urea = 24 (\leq 40).
- SGPT= 12 (\leq 40).
- SGOT = 15 (\leq 40).
- Na = 140 (135 - 145).
- K = 4 (3.5 - 5.5).
- CK-MB= negative.
- Troponin negative.
- PT and PTT were accepted Radiology.
- Echocardiography is accepted with ejection fraction 61%.

The patient was on

- Exforg 160/10 mg tablet once/day oral.
- Concor 2.5 mg tablet once/day oral.
- Ator 40 mg tablet once/day oral.
- Acetyl salicylic acid 75 mg tablet once /day oral.

Add on treatment

- Aldomet 250 mg tab TID.
- Rise concor to 5 mg tab OD.
- The next visit still BP = 190/110.

Add on treatment

- Exforg HCT tab OD.
- Concor 10 mg tab OD.
- Aldomet 250 mg tab TID.
- Cardura 8 mg tab OD bed time.
- This was hardly control blood pressure.0ddxd.
- I asked for more investigate secondary causes of uncontrolled hypertension.

Laboratory

- A1c %.
- ACTH (9 am, 9 pm).
- Serum cortisol (9 am, 9 pm).
- TSH.
- Lipid profile.
- Na, K, calcium (total, ionized).
- Vanillin Mandelik acid (VMA) in 24 hours urine.
- Creatinine clearance.

Imaging

- Magneti resonant imaging of brain.
- Duplex renal arteries.
- Computed tomography renal angiography (after proof of abnormality in renal duplex).
- Fundus eye examination.
- New echocardiography.

Results

- MRI brain no abnormality is detected.
- Duplex renal arteries: left kidney is ectopic in Lt iliac fossa, acceleration time is increased on both renal arteries but more on left (rt artery = 95 second (≤ 75), Lt artery= 100 second (≤ 75)).
- CT angiography renal arteries is showed pelvic kidney with anterior pelvis of the kidney and mal-rotated Lt. kidney supplied by 2 patent average capillary arteries originated from Lt CMA. No evidence of stenosis or mases or enlarged lymph nodes in abdomen and pelvic regions.
- Echocardiography showed up moderate pericardial effusion and EF= 69%.

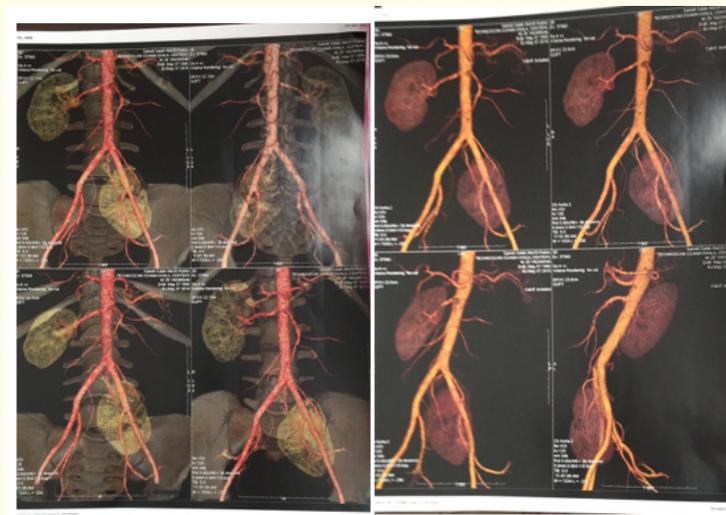


Figure 1

Laboratory results

- TSH = 1.26 (0.5 - 6).

- A1c% = 5.4%.
- LDL= 116 (\leq 100), TG = 119(\leq 150).
- Na= 146 (132 - 145), K = 5 (3.5 - 5.5), Mg = 2.2 (1.2-2.8), Ca (T) = 9.8 (8.5 - 10), Ca (I) = 1.12 (1.25 - 1.5).
- Cortisol (am) = 14.45 (\leq 19.4), Cortisol (pm)= 10.62 (\leq 11.9).
- ACTH (am) = 42.24 (\leq 63.3), ACTH (pm) = 33.04 (\leq 45).
- VMA = 5.4(1.3 - 6) mg/d.

Consultation of vascular surgery staff, the opinion is to make left nephrectomy to avoid more complications of uncontrolled hypertension and no other apparent reason for this problem in young patient.

Patient did not have the operation because of cost and fear.

Conclusion

Uncontrolled hypertension (resistant hypertension) is a very complicated issue and should be investigated well to let the patient has accepted life style with no complications of uncontrolled hypertension like in our case angina, pericardial effusion. Young patients should be in the best accepted health because this is the time of productivity and activity and the right in having live without complications, so please do not underestimate the conditions especially with young patients' hypertension.

Bibliography

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2. American Heart Association. Resistant Hypertension (2020).

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