CASE REPORT

Renal Vein Thrombosis Unusual Cause of Loin Pain

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INTRODUCTION:

Renal vein thrombus is a blood clot develop in the renal vein (1). It is uncommon condition with variable clinical presentations (2). It is associated with serious morbidity and, if left untreated, significant mortality (3).

CASE REPORT:

Fourty years old female living in Al-Simawa province presented to Urological Clinic in Najaf, with severe left loin pain of a sudden onset, it was colicky severe, agonizing pain localized to loin, The pain is not radiated anywhere and not associated with nausia or vomiting The patient was treated as a case of ureteric colic without response to any medication . She was hypertensive and on oral contraceptive pill for 4 years. She had 4 children, the youngest one is 4 years old.Other systems review was not significant.

On examination:

The patient was pale with bilateral non pitting leg swelling,her hight was 157 cm and her weight was 89kg and her BMI was 36, her blood preseure 140/90mmHg , She was afebrile with tender left flank .

Urinalysis showed pyuria about 10-12 pus cells /HPF, and microscopic hematuria 12-15 RBC/HPF .

Ultrasound shows enlarged left kidney, uniform in its exterior , increased echogencity, normal PCS without dilatation, and no stranding or focal lesion or perinephric collection. by Doppler showed generalized oligemia of the left kidney, and CT angiographic study U/S shows was highly suggested .

Renal CT Angio showed enlarged the kideny with poor delayed perfusion and normal left renal artery The left renal vein length was 16mm, contains large filling defect involving whole length indicating left renal vein thrombosis, with normal inferior evena cava.

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The patient was admitted to the hospital as a case of renal vein thrombosis (RVT), searching for other etiology rather than contraceptive pill, Antinuclear antibody, Antiphospholipid antibody, and anticardiolipen antibody, all were negative. bleeding profile including prothrombin, partial thromboplastin time, bleeding time and INR all were within normal ranges.

Contraceptive medication stopped immediately, Capoten 50mg orally was given for blood pressure control, analgesia in the form of tramadol ampule 2 times daily and paracetamol ampule 3 times daily for pain control, Glucose Water 2 Liters daily and ceftriaon I gm vial 2 times intravenously to treat associated infection which was manifested by pyuria, Enoxaparine 6000 I.U. subcutaneously 1x2 for 3 days and warfaren 5mg orally was given. On 2nd day the patient had frank painless total hematurea which was disappeared on 3rd day, On 4th day loin pain subsided.

Followup ultrasound and renal doppler showed progressive daily improvement in renal perfusion.

Fourth day, the resistive index was 0,78 on the left kidney while on right kidney was 0,55. On sixth day both kidneys were of symetrical renal perfusion and left kidney with resistive index of 0,64 and the right kidney with resistive index of 0,62. She was discharged on 7th day with oral coagulant warfaren 5mg and with antihypertensive capoten 50 mg.

On day 10, U/S and doppler showed normal left renal vein interm of caliber with normal flow without thrombus or stenosis.

DISCUSSION:

In adults, the most common identifiable risk factor for thrombosis is an active malignancy.(4) Renal cell carcinoma is by far the most frequent implicated tumor.(5) Nephrotic syndrome is the second most common associated disease process in adults, present in up to 20%(6). Recent surgical procedure as renal transplant, peritoneal lymph node dissection.(7) Pregnancy(8), puerperium(9,10), oral contraceptive (11), estrogen use, sepsis, trauma,(12,13) burn (14), severe dehydration (15), Vein compression(16), and hypercoagulability

syndromes[17], are identified causes. In less than 15% of the cases no cause is detected. In neonates, prematurity, central venous lines, diabetic mother, asphexia, infection /sepsis and umbilical venous catheter[18]are predisposing factore .

In acut RVT in children and adults, the most common symptom is sudden and sharp pain in 75% of patients and gross hematuria in one third of patients. Only 7% of patients are completely asymptomatic.[4] Chronic cases has insidious onset and usually asymptomatic.

Ultrasound with duplex and color Doppler is the technique most commonly used in the initial evaluation of patients with suspected RVT ,It is particularly useful in detecting flow in the renal artery and renal vein.[19] It can also reveal a heterogeneous enlarged kidney with loss of corticomedullary differentiation which is characteristic of, but not specific for acute RVT.

CT has become the imaging modality of choice for the diagnosis of RVT. It is quick, non-invasive and relatively inexpensive, and has a high diagnostic accuracy.[20] Demonstration of a low attenuation thrombus in the renal vein is usually diagnostic. Other indirect tomographic gindibgs associated with RVT are renal enlargement, renal vein enlargement,persistent nephrogram. The overall sensitivity and specificity of CT in cases of RVT approach 100%.

MRI is an alternative to CT.[21] Its advantages include non-invasiveness,avoidance of radiation and use of non-nephrotoxic intravenous contrast.

MRI is capable of producing high contrast images of blood flow, vessel walls, kidneys and the surrounding tissues.[22]

Patients with symptomatic RVT or thromboembolic event are usually treated with anticoagulation.[23] They initially receive intravenous unfractionated heparin or subcutenous low-molecular weight heparin for 3-10 days after which they are switched to oral warfarin. For the long term warfarin therapy, is uaually given a mininum of 6 -12 months. Specific treatment for the underlying disorder should be instituted simultaneously.

Thrombectomy (mechanical thrombectomy) and / or thrombolysis (chemical thrombectmy) has been successfully performed in small percent of patient with RVT as in treatment failure or bilateral cases or extension into inferior vena cava. [23]

RVT complications are acute renal failure – damage occur in 70% of affected kidney, thromboembolic events and systemic hypertension has been described as a long term consequence of RVT.[24]

CONCLUSION :

Doppler study is an essential part of ultrasound study and it is the key to direct the thinking for RVT whenever there is generalized renal oligemia .

Resistive index is a simple- cheap, serial, safe measure to assess renal revascularization in RVT.

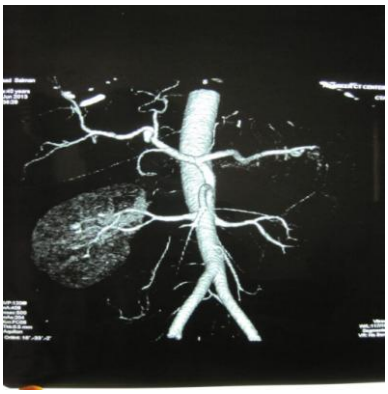

Figure 1:CT Angio Shows Arterial phase with non visualized left kidney.

Figure 2:CT Angio Shows venous phase with left Renal vein thrombus.

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