

CASE REPORT**BILATERAL RENAL LYMPHANGIECTASIA WITH ASCITES & PLEURAL EFFUSION**

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ABSTRACT

A 42 year male patient with complaints of dull abdominal pain and hematuria for 01 year was referred by Nephrologist for abdominal ultrasound (USG). USG demonstrated echogenic kidneys, perinephric and renal sinus cystic fluid collections bilaterally with minimal ascites and mild right sided pleural effusion. The USG findings were confirmed by computed tomography (CT) and magnetic resonance imaging (MRI) scan and were characteristic of renal lymphangiectasia. Awareness regarding renal lymphangiectasia will result in early diagnosis and management and decreased morbidity.

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INTRODUCTION

Renal lymphangiectasia is a rare benign renal disorder. Most of the information about this disorder is based on isolated case reports¹⁻². Developmental malformation of the renal lymphatic system results into failure of lymphatic tissue to establish communication with rest of lymphatic system. Once there is restricted lymphatic drainage the lymphatic channels dilate to form cystic masses that may be unilocular or multilocular and may be seen unilaterally or bilaterally³⁻⁴. CT and MRI play a pivotal role in the diagnosis, as the findings of this disorder are typical⁵. We report a case of 42 year man who presented to Nephrologist at Combined Military Hospital Multan with abdominal pain and hematuria, later on he was found to have bilateral renal lymphangiectasia associated with ascites and right sided pleural effusion based on characteristic imaging findings.

CASE REPORT

A 42 year old male patient presented with the complaints of pain abdomen and hematuria for 01 year. Pain was dull in nature and was described by the patient as pressure sensation and feeling of heaviness in abdomen. There was no history of fever, diabetes mellitus, trauma or any past surgical intervention, however patient

had raised blood pressure for last 01 year. On clinical examination, patient was afebrile, blood pressure was 160/90 mm of Hg. Examination of abdomen was unremarkable however auscultation of chest revealed decreased breaths sounds in right lung base. Routine investigations revealed hemoglobin level of 13.5 and total leucocyte count and the differential leucocyte counts were within normal limits. There was no renal impairment as serum urea and creatinine levels were 25mg/dl and 1.1mg/dl respectively. Transabdominal USG demonstrated bilateral multiseptated anechoic perinephric fluid collections with multiple confluent peri and parapelvic intrarenal cysts. There was mild abdominopelvic ascites and right sided pleural effusion. Contrast Enhanced Computed Tomography (CECT) revealed bilateral enlarged, swollen kidneys with slightly reduced cortical thickness owing to bilateral perinephric fluid collections which had an average CT density of 3 Hounsfield Unit. The collections had multiple non enhancing septae within them. Moreover multiple vaguely defined peri and parapelvic internal cysts were also seen which were much better demonstrated on USG. Mild ascites was seen in Morison's pouch and right peri hepatic space and moderate amount of right pleural effusion was also seen. USG guided aspiration of perirenal fluid was done and sample of the fluid was sent for examination, it showed protein levels of 1.2g/L. No microorganism was seen on

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Received: 30 Mar 2015; revised received: 10 Jul 2015; accepted: 07 Aug 2015

Leishman and Zeil-Neelsens stains. Based on the typical imaging findings the case was diagnosed as bilateral renal lymphangiectasia. Complementary MRI of abdomen confirmed our diagnosis, especially thin walled non enhancing peri and para pelvic intrarenal cysts of fluid signals were excellently demonstrated.

DISCUSSION

Renal lymphangiectasia is a rare disorder as in authors' knowledge only 51 cases have been reported since 1890⁶⁻⁷. It is known by different synonyms such as renal lymphangiomatosis, peripelvic lymphangiectasia, hygromarenale,

causes characteristic dilatation of perirenal, peripelvic and intrarenal lymphatic vessels which is responsible for typical imaging findings¹.

Clinically, when symptomatic, the most common presentations are abdominal pain (42%), abdominal distention (21%) followed by fever, hematuria, fatigue, weight loss, hypertension and occasionally deterioration of renal function (mostly reversible)⁸.

Findings of USG, CT and MRI are characteristic of renal lymphangiectasia. USG shows dilatation of lymphatic vessels seen as multiseptated anechoic thin walled fluid



Figure-1: (a) Transverse ultrasound image, (b) CECT, (c) & (d) T2W MRI axial and coronal images, showing perinephric and peripelvic cystic fluid collections. High signal areas in right pleural cavity and around liver margins representing pleural effusion and ascites respectively are also seen (c,d).

polycystic disease of renal sinuses⁸.

The frequency of lymphangiomas are 75% in head and neck, 20% in axillary region and 5% in other less common sites. Retroperitoneal lymphangiomas account for about 1% of all lymphangiomas³. The lymphatics of renal capsule and renal parenchyma drains into the renal sinus lymphatics. These lymphatics further drain into paraaortic, paracaval, inter-aortocaval lymph nodes. A disturbance in renal sinus drainage

collections with posterior acoustic enhancement in peripelvic and perinephric locations. Some times larger fluid collection may form around kidney without septations, compressing and displacing it. Kidney may be normal in size or enlarge and renal parenchymal echogenicity may be increased with altered corticomedullary differentiation⁶. On CT scan, renal lymphangiectasia appears as well contained, fluid density collection in peripelvic or

perinephric space with or without demonstrable septations with normal renal parenchyma. MRI can also diagnose renal lymphangiectasia, as the lymphatic collection appears hyperintense on T2W HASTE images and there will be reversal of corticomedullary intensity¹⁰.

Complications of undiagnosed/untreated cases include hematuria, ascites, hypertension, renal vein thrombosis and impairment of renal function¹⁰. The differential diagnosis of renal lymphangiectasia includes polycystic kidney disease, urinoma and lymphoma. Adult polycystic kidney disease demonstrates varying sized scattered intraparenchymal cysts and hepatic and pancreatic cysts may also be seen. Lymphoma demonstrates soft tissue characteristics on CT and MRI. Clinical history and typical imaging findings makes it possible to

arrive at the diagnosis with certainty¹.

CONFLICT OF INTEREST

This case report has no conflict of interest to declare by any author.

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