

## Case Report

# Lupus cystitis with hydroureteronephrosis in a young female with lupus nephritis

Tony Ete<sup>1</sup>, Sumanthro Mondal<sup>1\*</sup>, Debanjali Sinha<sup>1</sup>, Soumik Sarkar<sup>1</sup>, Abhirup Bhunia<sup>1</sup>, Shingamlung Kamei<sup>1</sup>, Jyotirmoy Pal<sup>1</sup>, Alakendu Ghosh<sup>2</sup>

<sup>1</sup>Department of Medicine, Institute of Post Graduate Medical Education and Research, Kolkata, West Bengal, India

<sup>2</sup>Department of Medicine and Department of Rheumatology and Clinical Immunology, Institute of Post Graduate Medical Education and Research, Kolkata, West Bengal, India

**Received:** 18 November 2013

**Accepted:** 15 December 2013

### \*Correspondence:

Dr. Sumanthro Mondal,

E-mail: drmsumanthro@gmail.com

© 2014 Ete T et al. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

Systemic lupus erythematosus is an autoimmune, multisystem disorder. Lupus nephritis is a common manifestation of SLE. Though rare, SLE may also involve lower urinary tract in the form of lupus cystitis with associated complications like hydroureteronephrosis. Lupus cystitis may present with gastro intestinal (GI) symptoms as the initial manifestation. The case reported herein is concerned with concomitant lupus nephritis and cystitis in a young female who also had associated GI symptoms and hydroureteronephrosis.

**Keywords:** SLE, Nephritis, Cystitis, Hydroureteronephrosis

## INTRODUCTION

Lupus cystitis is a rare manifestation of systemic lupus erythematosus. Usual presentation of lupus cystitis is urgency, increased frequency of micturition, dysuria along with gastrointestinal manifestations in the form of diarrhea and pain abdomen. Late manifestation of lupus cystitis includes hydroureteronephrosis. Our patient a 22 year old female presented with gastrointestinal discomfort, bladder irritation and features of renal impairment subsequently diagnosed of having lupus nephritis and lupus cystitis with hydroureteronephrosis.

## CASE REPORT

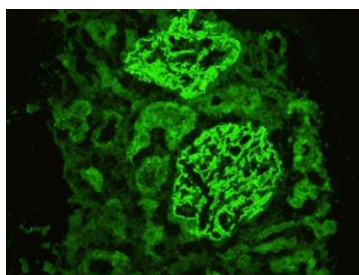
A 22 year old non diabetic, non-hypertensive female, presented with passage of loose stool, vomiting and swelling of both lower limbs for the last 6 months, low grade fever for 5 months and polyarthralgia since last 3 months. She was passing large volume, loose watery stool 4-5 times per day. Crampy, periumbilical pain preceded the passage of stool, and relieved after defecation. This was associated with occasional watery vomiting. No

history of gastrointestinal bleeding was present. She developed swelling of whole body starting from the periorbital region gradually involving lower limbs, abdomen and other parts. She also had suprapubic pain, dysuria and increased frequency of micturition. On examination, she was afebrile, pulse rate: 80/minute, blood pressure: 110/80 mm Hg. Pallor and pitting edema was present. Abdomen was distended with suprapubic tenderness and presence of free fluid. Percussion note was dull on right lower half of chest with diminished breath sound. Blood for routine examination revealed hemoglobin 8.7gm/dl, total leucocyte count of 3900/cumm, platelet count of 2 lakhs/cumm. Serum urea and creatinine was 21 mg/dl and 0.7 mg/dl respectively. Liver function test revealed hypoalbuminemia (2 gm/dl). Urine for routine examination showed 2+ protein: 3-5 RBCs, 6-7 WBCs with urinary casts. Urine for culture and sensitivity was negative. Pleural fluid was transudative in nature. Blood for ANA was 4+ positive in 1:100 dilution with homogenous pattern, anti-ds DNA was positive. The patient was diagnosed as a case of systemic lupus erythematosus (SLE). Ultrasonography of abdomen showed evidence of bilateral hydro ureteronephrosis with

thickened urinary bladder wall and echogenic floaters suggestive of cystitis (Figure 1 A&B). Blood for Hbs Ag, anti HCV and HIV were negative. Coagulation profile was normal. Renal biopsy revealed class V lupus nephritis (Figure 2). The patient was given a pulse dose of Methyl prednisolone and Injection cyclophosphamide as per the NIH protocol with symptomatic improvement.



**Figure 1: USG of abdomen showing A. Hydroureteronephrosis. B. Thickened urinary bladder wall with echogenic floaters in bladder lumen.**



**Figure 2: Renal biopsy with immunofluorescence staining showing deposition of immunoglobulins and complements along the capillary walls.**

## DISCUSSION

SLE is an autoimmune condition that may involve multiple organ systems. Apart from the involvement of kidney, lower urinary system may also get involved in the form of urinary tract infection, cyclophosphamide induced hemorrhagic cystitis, transverse myelopathy.<sup>1</sup> Lupus cystitis is a rare complication of SLE with the first case reported in the year 1965.<sup>2</sup> Lupus cystitis can present over a wide range of age varying from 8 to 75 years of age.<sup>3</sup> It is seen more commonly in female. In our patient the development of cystitis and hydroureteronephrosis was noted at an earlier age. The hydroureteronephrosis in lupus cystitis may be caused by spasm of detrusor muscle that induces vesicoureteric reflux, oedema or chronic fibrosis of vesicoureteral junctions or oedema of ureteral wall. Shortly after cystitis muscle spasm or oedema occurs.<sup>1</sup> However fibrosis of vesicoureteral junction takes longer period to develop. This explains the varied range of age of presentation. Amar Al-Shibli et al. reported a case of lupus cystitis in a young female who presented with gastrointestinal symptoms, serositis and bladder irritation symptoms including suprapubic pain, dysuria, frequency,

urgency, and hematuria.<sup>4</sup> The patient showed good improvement with immunosuppressive therapy. This is very much similar to our patient except for serositis. Kinoshita K, et al. reported two cases of lupus cystitis with gastrointestinal manifestations but without any bladder irritation symptoms. Both patients responded well to immunosuppression.<sup>5</sup> Gastrointestinal symptoms were found to be commonly associated with lupus cystitis and may be the initial manifestation of lupus cystitis. This can be explained by the involvement of smooth muscle of vesicle and intestinal wall in the disease process.<sup>6</sup> Another hypothesis is that a common autoantigen is present in both the bladder and gastrointestinal wall plays an important role in the patient with lupus cystitis.<sup>7</sup> It is interesting to note that in our patient gastro intestinal symptoms were the initial manifestations in our patient, fever and anasarca developed later on in the disease process. Here we are presenting a case of lupus cystitis with hydroureteronephrosis with class V lupus cystitis in whom gastro intestinal manifestations heralded the disease process.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

1. Zhang G, Li H, Huang W, Li X, Li X. Clinical features of lupus cystitis complicated with hydroureteronephrosis in a Chinese population. *J Rheumatol*. 2011 Apr;38(4):667-71.
2. Shipton EA. Hunner's ulcer (chronic interstitial cystitis): a manifestation of collagen disease. *Br J Urol* 1965;37:443-8.
3. La Manna A, Polito C, Papale MR, Rocco CE, Marte A. Chronic interstitial cystitis and systemic lupus erythematosus in an 8-year-old girl. *Pediatr Nephrol* 1998;12:139-40.
4. Al-Shibli A, Al-Salam S, Bernieh B, Matta H, Al Attrach I. Lupus cystitis in an Omani girl. *Saudi J Kidney Dis Transpl*. 2010 Sep;21(5):943-6.
5. Kinoshita K, Kishimoto K, Shimazu H, Nozaki Y, Sugiyama M, Ikoma S, Funauchi M. Two cases of lupus cystitis with no bladder irritation symptoms. *Intern Med*. 2008;47(16):1477-9.
6. Perlemuter G, Chaussade S, Wechsler B, Cacoub P, Dapoigny M, Kahan A et al. Chronic intestinal pseudo-obstruction in systemic lupus erythematosus. *Gut* 1998;43:117-22.
7. Nakauchi Y, Suehiro T, Tahara K, Kumon Y, Yasuoka N, Ohashi Y, Kawada M, Hashimoto K. Systemic lupus erythematosus relapse with lupus cystitis. *Clin Exp Rheumatol*. 1995 Sep-Oct;13(5): 645-8.

DOI: 10.5455/2320-6012.ijrms20140275

**Cite this article as:** Ete T, Mondal S, Sinha D, Sarkar S, Bhunia A, Kamei S, Pal J, Ghosh A. Lupus cystitis with hydroureteronephrosis in a young female with lupus nephritis. *Int J Res Med Sci* 2014;2:365-6.