

A tropical tale of chyluria and complications due to sclerosants

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Section: Uroradiology & genital male imaging

Area of Interest: Urinary Tract / Bladder **Special Focus:**

Tropical diseases Case Type: Clinical Cases

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Patient: 42 years, male

Clinical History:

Patient was treated in an outside hospital with endoscopic silver nitrate instillation for complaints of chyluria. One day later, he started having acute left loin pain, tenderness and pallor. He was referred to our center for further management.

Imaging Findings:

Plain CT abdomen: Enlarged left renal silhouette with branching calcific linear density within the calyceal system and parenchyma suggestive of argyrosis of the urinary tract (fig:1)

CECT abdomen: Heterogeneously enhancing, enlarged left renal parenchyma with fixity to left psoas muscle and a large pseudo-aneurysm at left renal pelvis. (fig:2-a, b).

Discussion:

Chyluria results due to fistulous communications between intrarenal lymphatic vessels and urinary collecting system.

Etiology:

Classification based on etiological factors are broadly divided into two groups, parasitic and non-parasitic causes (1):

1. Parasitic causes: *Wuchereria bancrofti*-90%, *Taenia echinococcus*, *Taenia nana*, Ankylostomiasis, Trichiniasis, Malarial parasites.

2. Non-parasitic causes: Congenital Lymphangioma of urinary tract, Megalymphatics & urethral/vesical fistulae, Stenosis of thoracic duct, Retroperitoneal lymphangiectasia, Traumatic lymphangiourinary fistulae, Obstruction of thoracic duct/ lymphatics (tumor, granulomas, aortic aneurysm), Other causes (pregnancy, diabetes, abscess), Nephrotic syndrome

Management:

Non-surgical management:

- Dietary modification with fat restricted and high protein diet
- Diethyl carbamazine when filariasis is the cause for chyluria .

Curative management:

- Minimally invasive endoscopic sclerotherapy(2),
- Laser(3),
- Open surgery(4),
- laparoscopic surgery(5, 6)

resulting in ureteric stricture, renal papillary necrosis, arterial hemorrhage, pseudoaneurysm, acute renal failure with argyrosis of urinary tract (7, 8, 9, 10, 12)

Take home message:

Complications of sclerotherapy (silver nitrate instillation) is more often due to improper use of sclerosant. Precautions to be taken so as to avoid complications include (11):

- 1) Avoid using higher concentration of silver nitrate (not more than 3 % of silver nitrate solution)
- 2) forceful instillation and injection of sclerosant more than the pelvic volume would lead to pyelovenous and pyelolymphatic reflux resulting in vascular and parenchymal damage.
- 3) Donot wash with normal saline. As normal saline would precipitate silver chloride, which is an opaque precipitate causes obstruction.

Differential Diagnosis List: Argyrosis of left upper renal tract with pseudoaneurysm., ., .

Final Diagnosis: Argyrosis of left upper renal tract with pseudoaneurysm.

References:

- Sachit Sharma, Ashok Kumar Hemal (2009) Chyluria- An Overview. *Int J Nephrol Urol* 1(1):14-26
- Singh K J, Srivastava A (2005) Nonsurgical management of chyluria (sclerotherapy). *Indian J Urol* 21:55-8
- Rowe, E., Mills, I.W. & Patel, A (2002) Laser treatment for chyluria. *BJU International* 89 (1cr), 139
- Punekar SV, Kelkar AR, Prem AR, Deshmukh HL, Gavande PM (1997) Surgical disconnection of lymphorenal communication for chyluria: a 15 year experience. *Br J Urol* 80: 858–63 (PMID: [9439397](#))
- Hemal AK, Kumar M, Wadhwa SN (1999) Retroperitoneoscopic nephrolympholysis and ureterolysis for management of intractable filarial chyluria. *J Endourol* 13: 507 (PMID: [10569525](#))
- Gomella LG, Shenot P, Abdel-Meguid TA (1998) Extraperitoneal laparoscopic nephrolysis for the treatment of chyluria. *Br J Urol* 81: 320–1 (PMID: [9488081](#))
- Dash SC, Bhargav Y, Saxena S, Agarwal SK, Tiwari SC, Dinda A (1996) Acute renal failure and renal papillary necrosis following instillation of silver nitrate for treatment of chyluria. *Nephrol Dial Transplant* 11:1841-2 (PMID: [8918634](#))
- Srivastava DN, Yadav S, Hemal AK, Berry M (1998) Arterial haemorrhage following instillation of silver nitrate in chyluria: treatment by coil embolization. *Australas Radiol* 42(3):234-5 (PMID: [9727251](#))
- Gulati MS, Sharma R, Kapoor A, Berry M (1999) Pelvi-calyceal cast formation following silver nitrate treatment for chyluria. *Australas Radiol* 43(1):102-3 (PMID: [10901881](#))
- Mandhani A, Kapoor R, Gupta RK, Rao HS (1998) Can silver nitrate instillation for the treatment of chyluria be fatal?. *Br J Urol* 82(6):926-7 (PMID: [9883246](#))
- Anant Kumar (2007) An unusual complication of silver nitrate therapy for chyluria. *Indian J Urol* 23(2): 205 (PMID: [19675805](#))
- Kojima Y, Uchida K, Takiuchi H, Wakatsuki A, Sakurai T, Fujita Y, Shirai D, Kobayashi Y (1993) Argyrosis of the urinary tract after silver nitrate instillation: report of a case. *Hinyokika Kyo* 39(1):41-4 (PMID: [8460585](#))

Figure 1

a

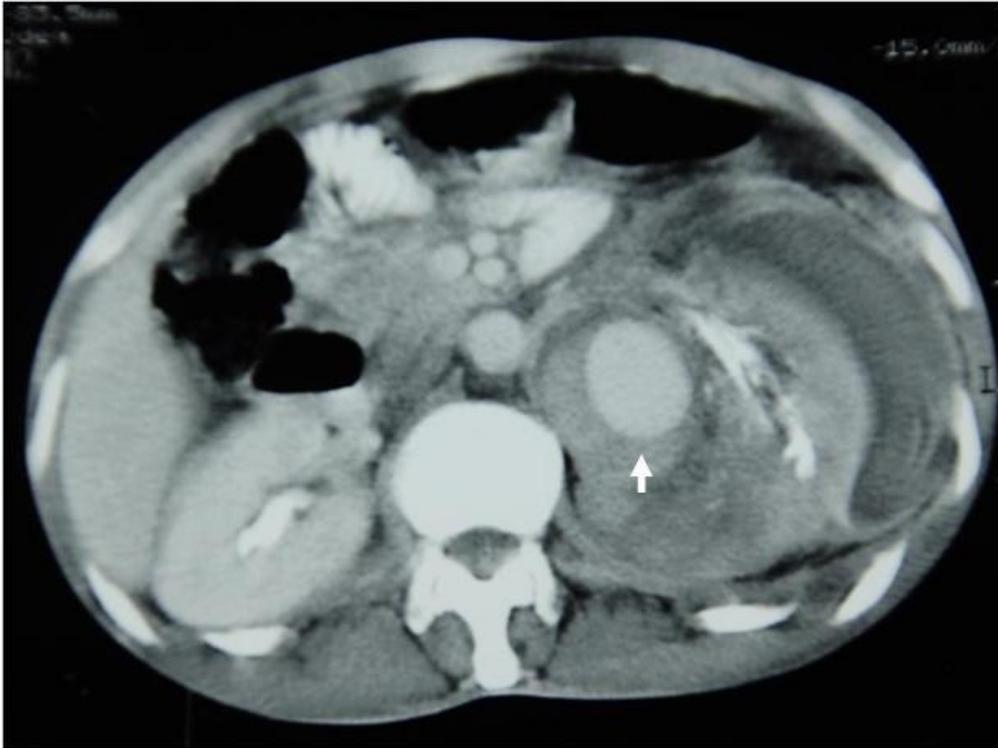


Description: Plain CT axial section showing, Enlarged left renal silhouette with branching calcific linear density within the calyceal system and parenchyma suggestive of argyrosis of the urinary tract (arrow)

Origin: Department of Radiology, Amrita Institute of Medical Science, Kochi, Kerala, India.

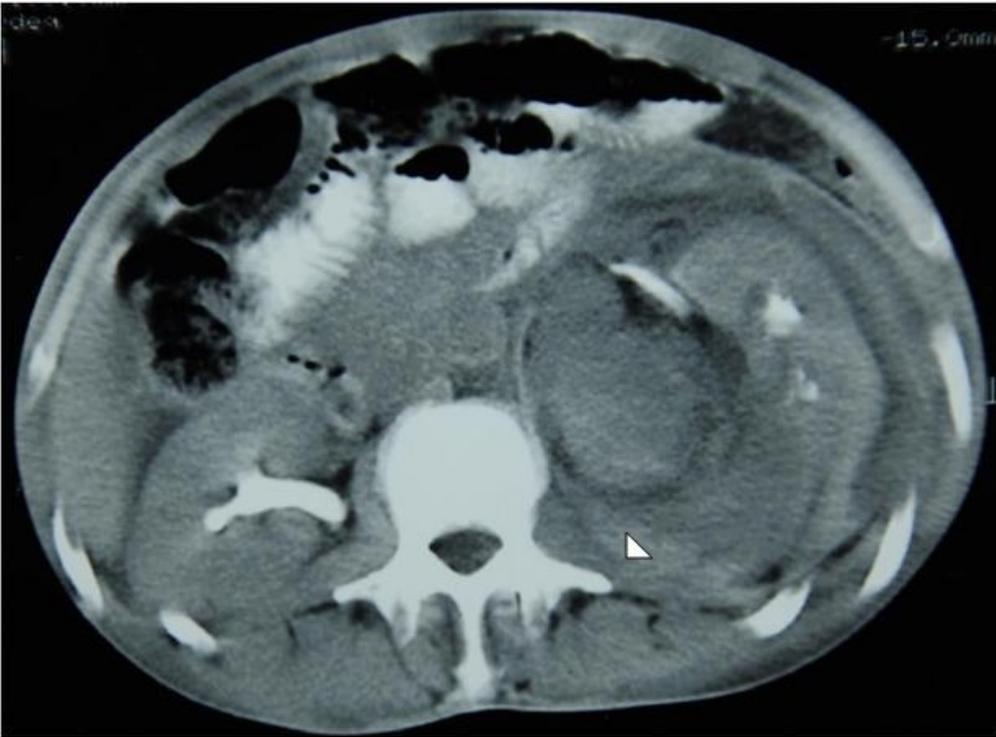
Figure 2

a



Description: Heterogeneously enhancing, enlarged left renal parenchyma with fixity to left psoas muscle and a large pseudo-aneurysm at left renal pelvis (arrow) **Origin:** Department of Radiology, Amrita Institute of Medical Science, Kochi, Kerala, India

b



Description: Heterogeneously enhancing, enlarged left renal parenchyma with fixity to left psoas muscle (arrow head) **Origin:** Department of Radiology, Amrita Institute of Medical Science, Kochi, Kerala, India