The Efficacy And Safety Of Povidone Iodine In The Management Of Chyluria

S Bhat, T Kishore, H Govindan, K Dinesan, F Cardoza

Introduction

Chyluria is ‘milky urine’ due to the presence of chyle that enters the urinary tract due to fistulous communication with the renal lymphatics. Though usually intermittent, persistence may lead to weight loss and protein deficiency. Management includes conservative measures like avoidance of fat, anti filarial drugs etc; minimally invasive techniques like renal pelvic instillation of sclerosing agents and invasive procedures like renal decapsulation, retroperitoneoscopic nephrolympholysis etc. Instillation of 1% silver nitrate into the renal pelvis has been the initial treatment modality if conservative measures failed. However, this procedure may be associated with serious complications like acute renal failure, life threatening haemorrhage and death. Povidone iodine as a sclerosing agent has been shown to be effective and safe in the management of chyluria.

Materials and Methods

Between January 2000 and December 2002, 20 patients who presented with chyluria were studied. There were 14 males and 6 females. Their age ranged from 22 to 42 years. All presented with complaints of passing milky urine, of duration varying from 2 months to 5 years. Chyluria was confirmed by demonstration of chylomicrons in the urine. Urine culture grew E.Coli in 2 patients and Klebsiella in 1 patient which were treated accordingly. Renal function was normal in all patients. Intravenous urogram was normal in all in whom it was done. Cystoscopy showed chylous efflux on the right side in 11 patients and in the remaining on the left side. None had bilateral involvement. Under antibiotic cover a 6F ureteric catheter was passed into the selected ureter and positioned in the pelvis. Ten milliliters of diluted solution of povidone iodine (2 ml of 5% povidone iodine+8 ml of distilled water) was instilled into the renal pelvis. Patients were observed for 24 hours. Follow up was up to 3 years.

Results

Prompt cessation of the chyluria was noted in all the patients and 17 patients were free of chyluria when followed up to 3 years. Three patients presented 1, 3, and 4 weeks later with recurrence. All 3 were retreated with povidone iodine. However, in 2 patients the chyluria persisted and these 2 patients were referred for laparoscopic management and lost for follow-up. Of the 20 patients, 2 patients had severe anaphylaxis which was appropriately treated.

Conclusion

Povidone iodine is effective in curing chyluria. However, instillation of povidone iodine may be associated with serious anaphylactic reactions.
immediately following povidone iodine instillation. This was treated with intravenous fluids, epinephrine and oxygen.

DISCUSSION

Surgical management of chyluria is indicated when conservative measures fail. Conservative measures include dietary manipulations with omission of long chain triglycerides (TG), drug therapy with diethyl carbamezine, bed rest, abdominal binders etc. Median chain TG’s (<12 C atoms) are advocated as they are directly reabsorbed via the portal vein bypassing the lacteals and lymphatics.

Endoscopic sclerotherapy with 1% silver nitrate has been the initial modality when conservative treatment failed. However, this may be associated with serious complications like acute renal failure, papillary necrosis, massive hematuria and even death. Even though not as extensively tried as silver nitrate, povidone iodine has been shown to be effective. Instillation of povidone iodine initially results in inflammatory oedema and blockage of the lymphatics. Later, inflammatory fibrosis leads to permanent obstruction of the lymphatic channels and cure of chyluria. Povidone iodine is iodine complexed with the non ionic surfactant polymer polyvinyl pyrrolidone and has a local sclerosant action. As a sclerosant it has been used in the management of renal cysts and lymphocele following renal transplantation. Our study of 20 patients, showed povidone iodine to be an effective agent in curing chyluria. However, it may be associated with serious iodine hypersensitivity reactions. Other agents that have been tried are 50% glucose, normal saline, 10-25% sodium iodide and 15% potassium iodide. The reported success rate varies from 59-68% with recurrence rate of 51%.

Surgical treatment is indicated in patients with severe symptoms i.e. severe anemia, hypoproteinemina, anasarca and chyluria not responding to conservative measures. Retroperitoneoscopic or laparoscopic nephrolympholysis, ureterolympholysis, hilar stripping, fasciectomy etc. have been proved to be effective. Tandon et al believe that the local obstruction theory is the correct approach for surgical intervention. The surgical intervention for chyluria is indicated only when the process is relentless resulting in large losses of protein and fat from the urine with loss of body weight; chyluric fibrous clots may result in ureteral obstruction or urinary retention necessitating surgical intervention.

References


Author Information
Suresh Bhat, M.S., Mch, DNB
Medical college

T. A. Kishore, M.S., DNB, MRCS (Edin)
Medical college

Hari Govindan, M.S., Mch
Medical college

K. M. Dinesan, M.S., Mch
Medical college

Felix Cardoza, M.S., Mch
Medical college