

# Successful treatment of a large symptomatic lymphocyst with percutaneous drainage and repeated iodopovidone sclerotherapy

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## Summary

The objective of the case report was to present an easy and safe method for treatment of a large, persistent lymphocyst, through a procedure performed in an ambulatory setting. The patient diagnosed with large (1,800 ml), symptomatic (pains, renal insufficiency) lymphocyst after lymphadenectomy for cervical cancer, was successfully treated with percutaneous drainage (using vascular drains) and five sessions of sclerotherapy with 10% iodopovidone, performed in ambulatory settings. The method was minimally invasive, safe, and effective in management of symptomatic lymphocyst.

*Key words:* Lymphocyst; Lymphadenectomy; Iodopovidone; Percutaneous; Drainage.

## Introduction

Symptomatic lymphocyst (LC) can be a complication following pelvic and para-aortic lymphadenectomy for gynecologic cancers. Treatment options include observation, drainage, sclerotherapy, and surgery [1]. Here the authors describe a case with large, bilateral LC causing pain and ureters obstruction with renal insufficiency, treated in ambulatory setting with repeated iodopovidone sclerotherapy.

## Case Report

A 59-year-old women diagnosed with cervical cancer, Stage IB1 (International Federation of Obstetricians and Gynaecologists (FIGO) staging system 2009), planoepithelial carcinoma G2 from biopsy, was admitted for radical hysterectomy. There were no signs of disease spread noted in preoperative abdominal and pelvis computer tomography and chest X-ray. Laboratory tests were within normal ranges. The patient had well-controlled hypertension, and had undergone type C viral hepatitis in the past. Her body mass index (BMI) was 21.4 kg/m<sup>2</sup>. She had had no previous surgery.

She underwent a radical hysterectomy type C1 (Querleu and Morrow classification) [2] combined with pelvic (type III) [3] and para-aortic (up to IMA) lymphadenectomy (LN) (January 27<sup>th</sup>, 2012). Peritoneum was left open. The surgery took 3.5 hours. Two drains were inserted in the pelvis to control bleeding and these drained 100 ml/day serous fluid on the right side (removed on the third day), and 40 ml/day on the left side (removed on the first day). The bladder catheter was removed on the fifth day, and a spontaneous micturition was observed with 50 ml urine retention. An urography performed on day 7 showed correct renal function and no obstruction in urine passing.

Histopathology revealed planoepithelial carcinoma G2 of the cervix with an infiltration depth to eight mm, involving the external os and lower part of the cervical canal. There was no disease spread neither in the uterus specimen nor in the lymph nodes (0/42). There were no significant laboratory test abnormalities in postoperative course.

## Differential diagnosis, investigations, and treatment

During follow-up examinations, the patient did not manifest any complications until June 29<sup>th</sup>, 2012 (five months after surgery), when she was referred from the hospital emergency unit with suspicion of ascites, renal insufficiency [creatinine 4.1 mg/dl (range: 0.5 - 0.9), urea 187 mg/dl (range: 15 - 50), and anemia (hemoglobin 10.1 g/dl (range: 10.8 - 14.2)]. Sonography revealed retroperitoneal LC with an estimated volume of >1,300 ml on the right side and 500 ml on the left side with bilateral hydronephrosis. Percutaneous vascular drains were inserted in local anesthesia, under ultrasonography control – 1,800 ml and 550 ml were drained from the right and left side, respectively. The clear serous fluid was negative for cancer cells and infection. During the next two days, the patient passed 3,200 ml urine a day. In the following four days, active drainage was performed with 1,000 ml and 100 ml a day from the right and left side, respectively. In sonography no lymphocyst space was observed. In the next 12 days normal creatinine levels were noted, with no signs of hydronephrosis on the right side, and slight enlargement of the pyelocalyceal system on the left side (10 mm). The urinary tract infection with *Esherichia coli* was diagnosed and antibiotic treatment was required.

One month after the drains insertion there were 900-1,400 ml/day of lymph fluid on the right side and 50-100 ml/day on the left side. During sonography a heterogenic structure 103 x 67 mm in diameter was noted, with no lumen on the right side. The option of surgical laparoscopic treatment was discussed but the patient refused this approach. After complete lymphocele draining, 20 ml of 10% iodopovidone was inserted and the drains closed on both sides. The patient changed position for two hours, and the drains were opened again.

On the 39<sup>th</sup> day, there were 1,000 ml/day drainage on the right side and no fluid on the left side. The right kidney showed a normal diameter of the pyelocalyceal system, while a diameter of 15 mm was registered on the left side. A second iodopovidone application to the right LC was performed with the same procedure as before. The drain was removed from the left side. There was no drainage for the next three days after the procedure, but then 600-1,100 ml/day drainage on the right side was noted again. In every two weeks next iodopovidone applications were performed, with drainage of a 600-800 ml/day after third, a 400-500 ml/day after fourth, and 0 ml/day after fifth infusion, respectively.

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### Outcome and follow-up

On the 81<sup>st</sup> day, no drainage was noted. Sonography did not reveal any lymphocyst nor any heterogenic structures. Drain was patent. The pyelocalyceal system diameter was 20 mm on the left side, and no enlargement was noted on the right side. Laboratory test showed normal renal function. The drain was removed. During follow-up examinations in the next six months, no lymphocyst recurrence nor renal dysfunction was noted.

### Discussion

The authors describe a successful large lymphocyst percutaneous drainage with multiple (five times) sclerotherapy sessions using 10% iodopovide in a patient with symptomatic, persistent lymphocyst, following lymphadenectomy, and complicated with bilateral hydronephrosis and renal insufficiency.

Lymphocyst can be detected in 12-32% of cases after radical pelvic lymphadenectomy, but symptomatic LC are seen in 0.5-10% [1]. Diagnosis is based on anamnesis, symptoms (not always), imaging where ultrasonography plays a major role. Most lymphocysts appear in period of three weeks to few months after LN. Treatment should be suggested to those with symptoms, or when there is a risk of complications, or no optimal adjuvant cancer treatment can be performed [1].

Fine needle aspiration should be used as a diagnostic modality only, because the recurrence after complete LC emptying is seen in 50-100% of cases. The effectiveness of prolonged drain placement alone is estimated at 57-72% [1]. In the case the drainage alone for one month eliminated ureters obstruction but did not stop lymph leakage. Sclerotherapy is considered to be a feasible and effective method of LC treatment. The regimen infused to the LC lumen causes local inflammation and fibrosis that obliterates lymph vessels [4]. Iodopovidone, ethanol, doxycycline, bleomycine, and polidokanol were described as sclerotherapy regimes with an effectiveness of 80-100% [1]. In general, one sclerotherapy procedure should be effective when LC drainage is less than 150 ml/day, and a few procedures are often required when the volume is larger [5]. The most often suggested schemas described one to three infusions [1]. The risk factors for sclerotherapy failure are: large LC volume before treatment and the need to repeat the procedure more than four times [6]. The proposed procedure involved LC emptying followed by 10% iodopovidone infusion, and the drains were opened after two hours [6]. Complications of sclerotherapy may occur in 12% of cases. These involve subcutaneous tissue inflammation, peritonitis, and elevated creatinine serum levels [6]. Surgical treatment involves laparoscopy and LC fenestration to the peritoneal cavity, and is considered very effective and safe [7-9]. The most recent microsurgery method called lymphaticovenular anastomosis is a minimally invasive procedure, considered effective in the treatment of pelvic lymphocysts [10].

The only lymphocyst prevention procedure after pelvic lymphadenectomy is leaving the peritoneum open. The drain placement is associated with a higher risk of short and long-term symptomatic lymphocyst formation [11, 12]. In the case, after surgery with lymphadenectomy, according to guidelines, drains were put in the pelvis, not retroperitoneal space, to control bleeding only. Despite this lymphocysts appeared and were of major clinical significance.

Percutaneous lymphocele drainage with multiple sclerotherapy sessions using 10% iodopovidone appears to be a safe, acceptable, and effective method for symptomatic, large, and persistent lymphocyst treatment possible to perform in ambulatory settings. Further studies are needed to standardize the procedure (timing, volume etc).

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