CIRA Case of the Week
February 2017

Case Courtesy of Drs. Emmie St-Jean Dumais
and François Côté

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Patient History

58 year old man

- Prior history
  - Left inguinal myxoid liposarcoma treated by surgical excision and radiation therapy in 2000
- Medical history otherwise unremarkable

Patient History

- Recent large surgical excision for a radiation-induced chondrosarcoma in the thigh
- 2 surgical drains left in place
  - Collect 1.2 to 1.4 L of lymphatic fluid per day

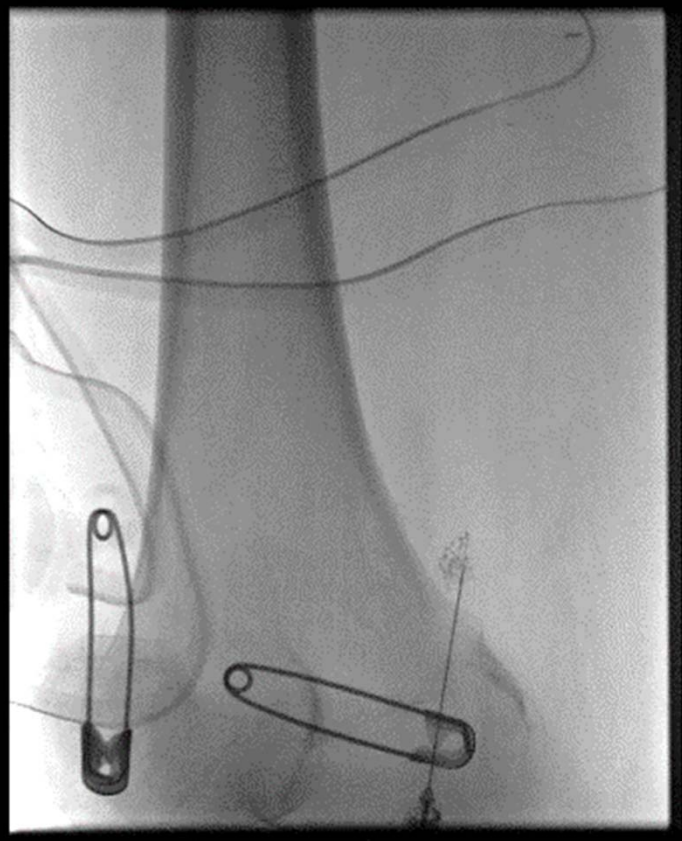
Lymphocele

- 7 sclerotherapy sessions with no significant improvement
- Lymphography was performed to allow better evaluation of the problem

Lymphography

Technique:

- Puncture of a left popliteal lymph node with a 22G needle under ultrasound guidance
- Slow injection of 10 cc of Lipiodol



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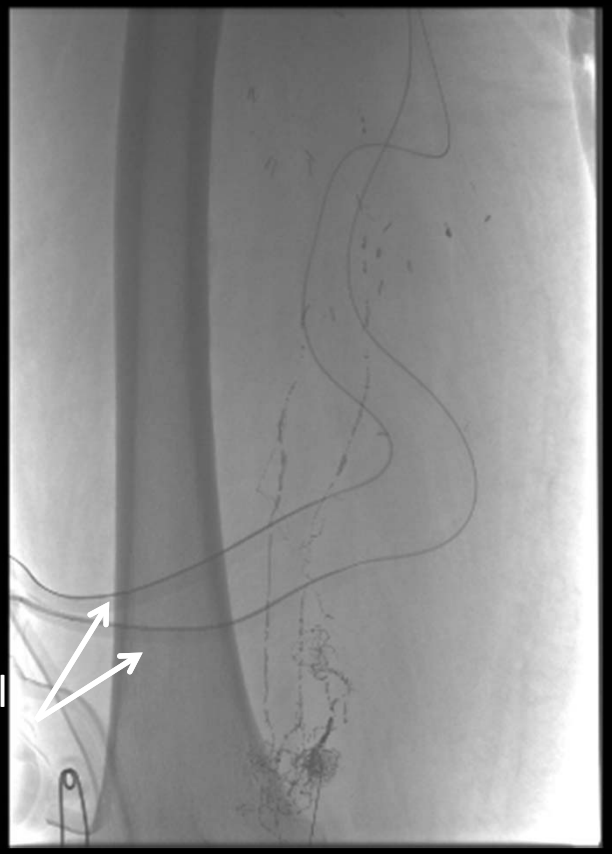
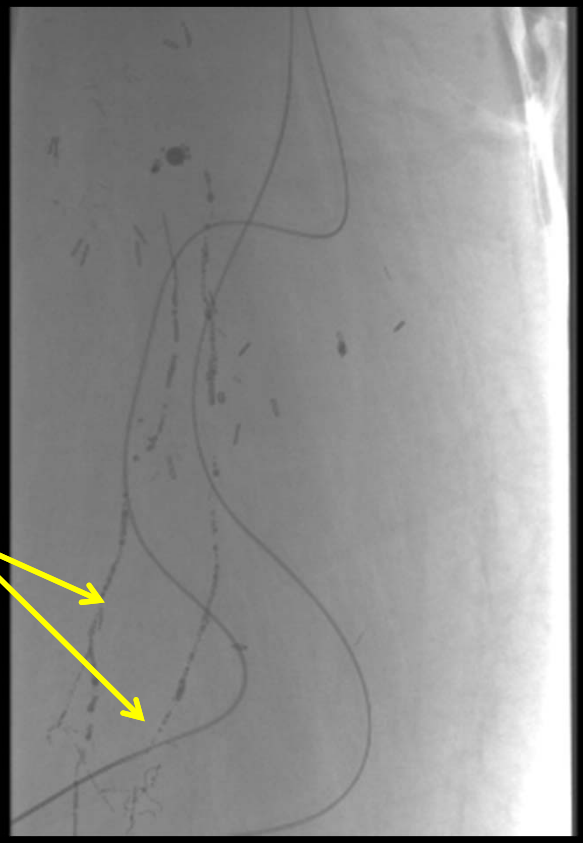
Lymphography



2 surgical drains

8 min.



2 major lymphatic ducts

10 min.

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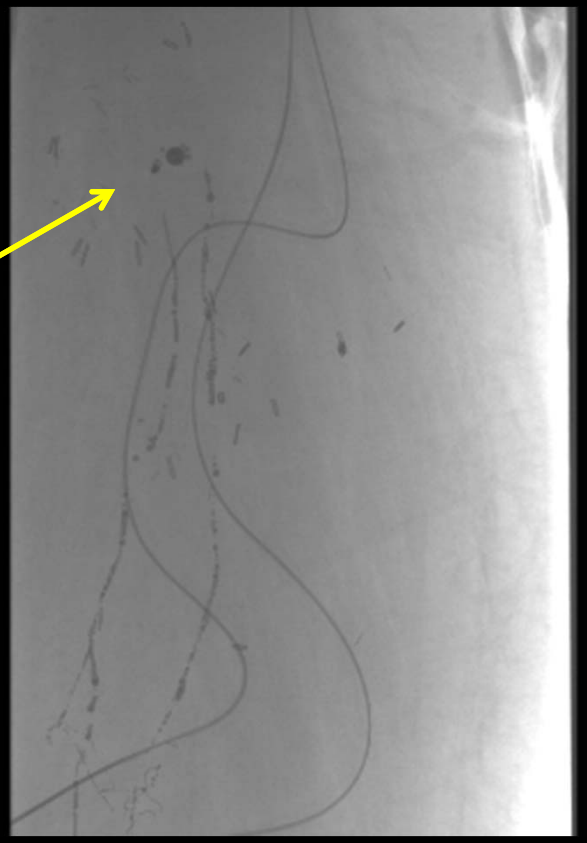
Lymphography

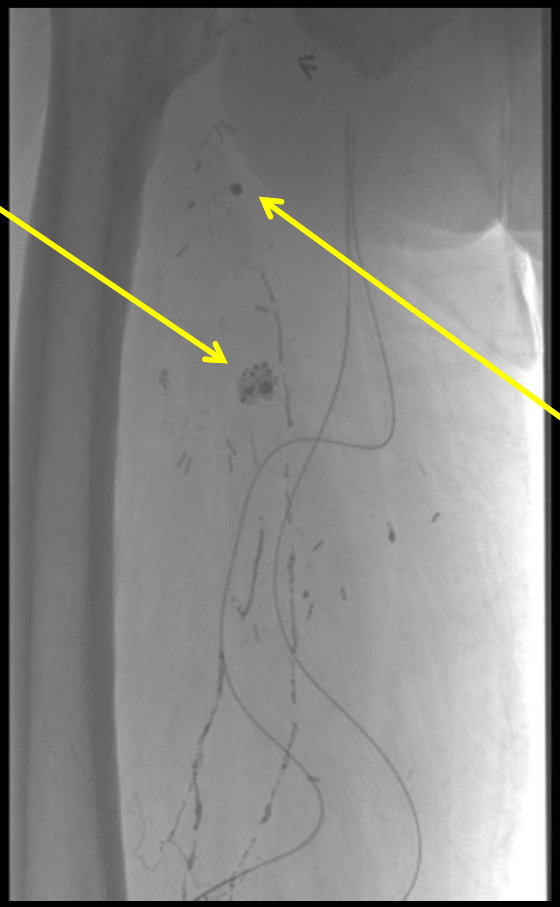
A small accumulation of Lipiodol appears



10 min.

Lymphography

This leak of contrast continues to progress…



…while a new one is appearing proximally

12 min.

Lymphography

Both sites of extravasation of Lipiodol still show progression at 26 minutes post-injection

26 min.

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Lymphography

Diagnosis :

Chylous leak from two major lymphatic ducts demonstrated in the proximal thigh

47 min.

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Discussion

- We discussed the case with the orthopedic surgeon
- Our options were the following :
    a) Injection of methylene blue for further surgical repair
    b) Hope the inflammatory reaction caused by the Lipiodol could lead to closure of the leak
    c) Embolize both ducts under fluoroscopic guidance

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Discussion

- Injection of methylene blue for a further surgical repair
  - Was not our first choice because of the complexity and the risks of the surgery
  - There was a lot of scar tissue and anatomical distortion in that region of the left thigh

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Discussion

- Hope the inflammatory reaction caused by the Lipiodol could lead to closure of the leak
  - In our case, the flow seemed too high and the best we could achieve would probably have been a reduction of the leak only

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Discussion

- Embolize both ducts under fluoroscopic guidance
  - Embolization with coils was considered since it was a high-flow leak and it was clearly refractory to conservative management
  - The possible benefits of the procedure surpassed the risks and we thought we should give it a try

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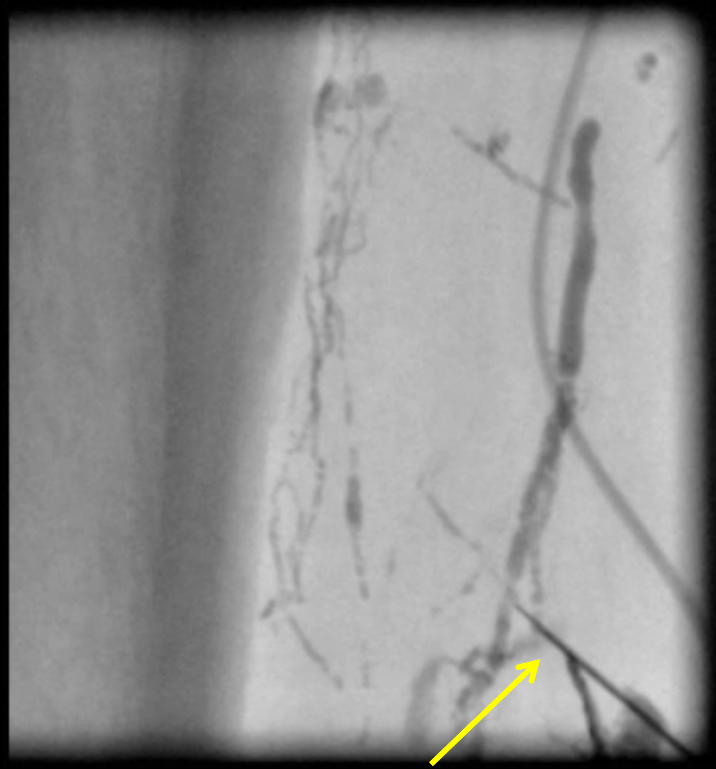
Embolization

Puncture of the first duct on the posterior aspect of the left thigh with a micropuncture needle under fluoroscopic guidance



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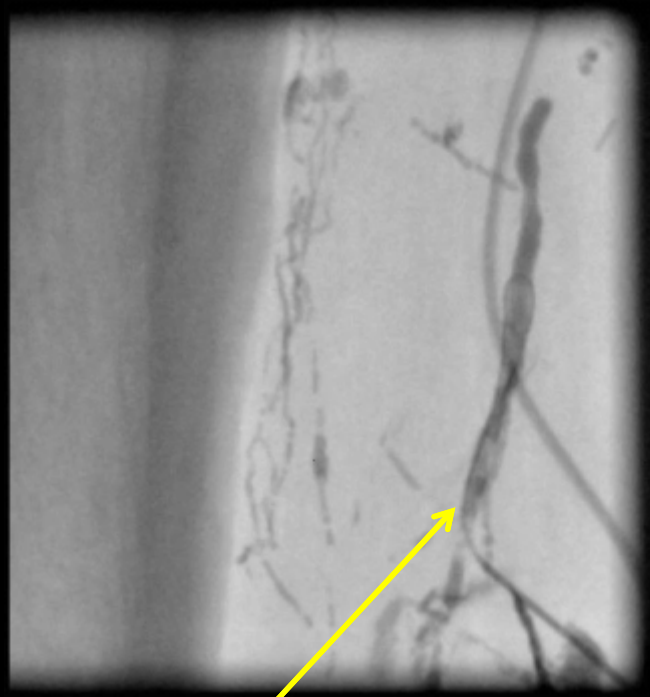
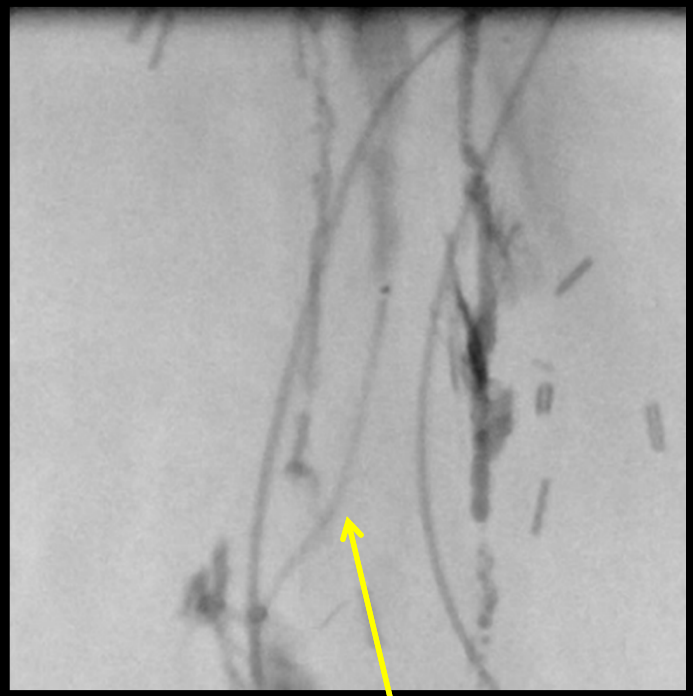
Embolization

Introduction of a 0.014 inch guidewire and a microcatheter



Guidewire

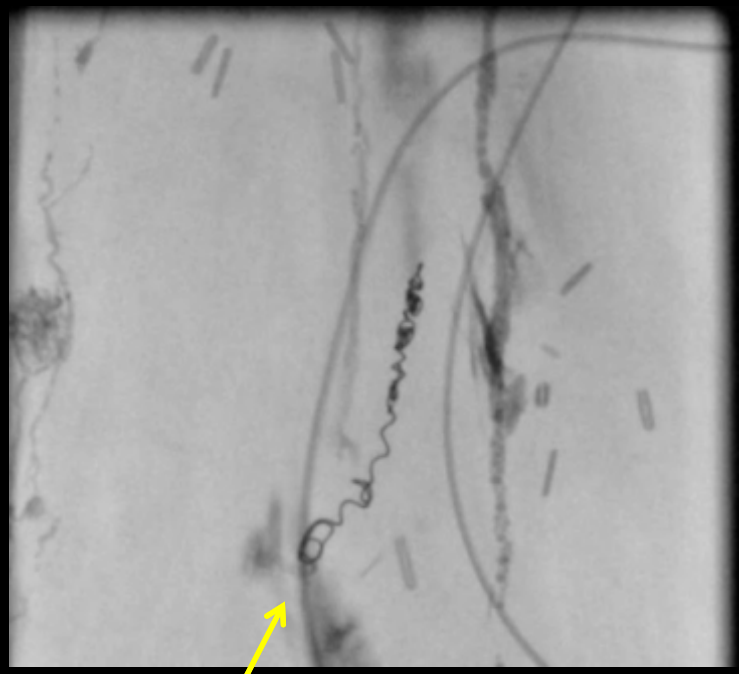


Microcatheter

Embolization

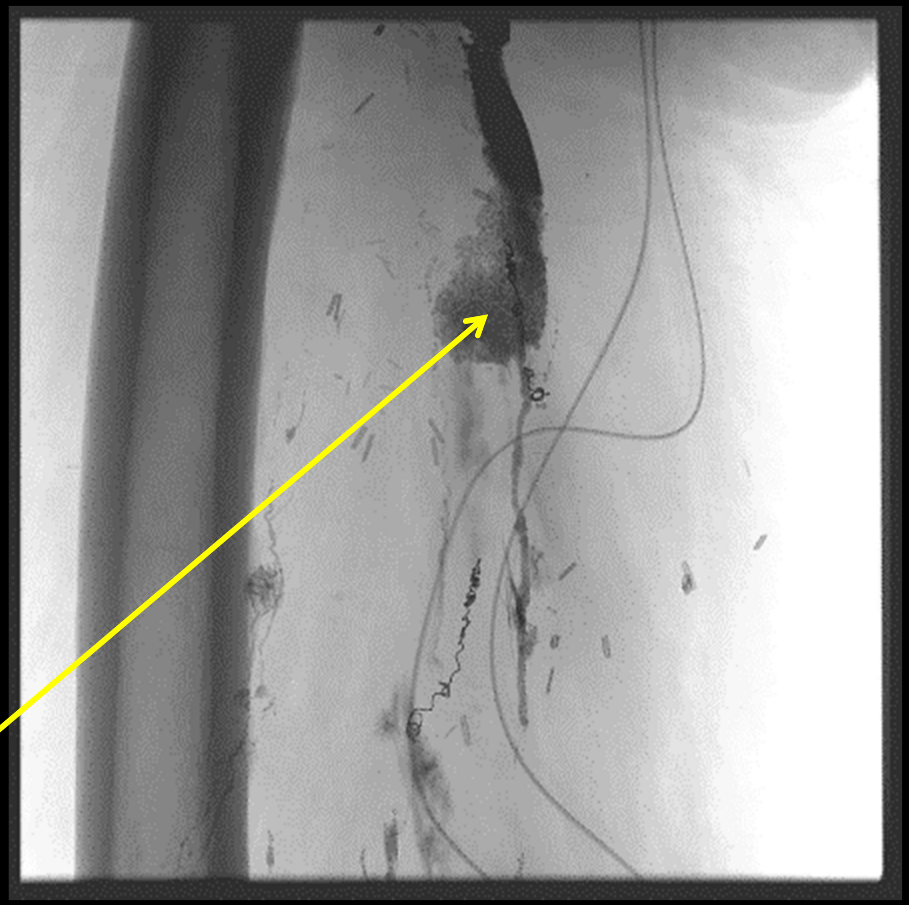
Localization of the leak with a small injection of iodine contrast

Embolization with 2 and 3 mm metallic coils



Embolization

The same technique was used for the second duct



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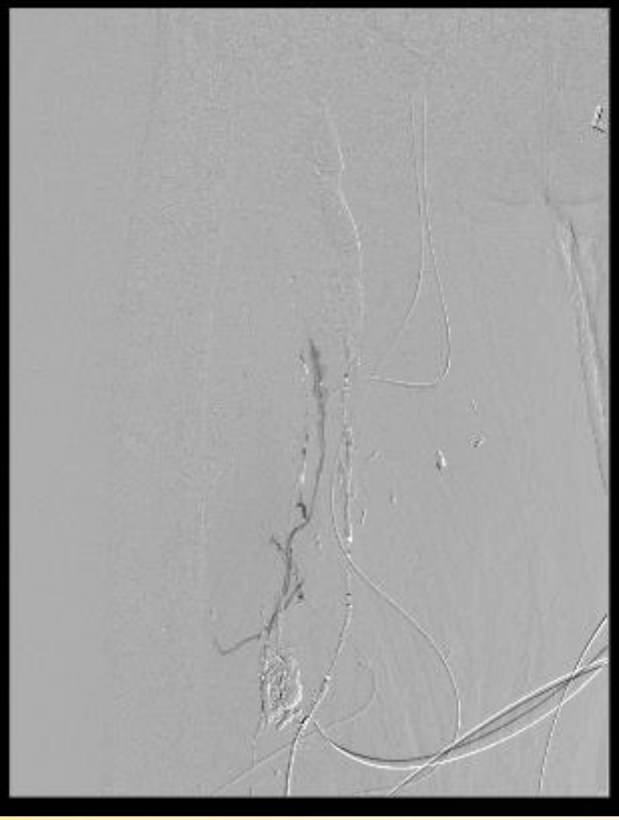
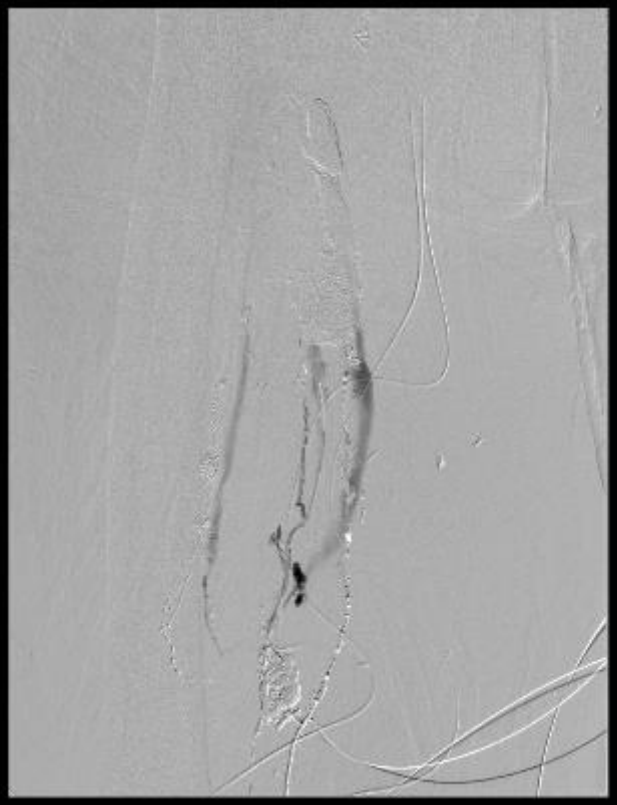
Embolization

Injection of iodinated contrast to confirm the success of the embolization…





Embolization

…We discovered lymphatico-venous communications

- Probably iatrogenic
- Should help the drainage of the lymphatic fluid

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Possible Complications of Embolization

- Lipiodol emboli in the pulmonary vasculature
  - A chest radiograph was obtained at the end of the procedure and was normal
- Allergic reaction to Lipiodol
- Soft tissue hematoma

Follow-up

- The chyle collected by the drains immediately dropped from 1.4 L to 180 cc per day.
- Both drains were removed 8 days post-embolization.
- Leak of <1 cc per day by the drain incisions was noted 13 days post-embolization with mild lymphedema.

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Conclusion

Lymphatic vessel embolization is a viable option for the treatment of post-operative lymphoceles

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