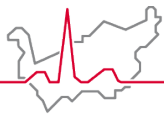




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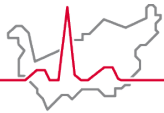
Sérôme et lymphorrhée post-opératoire

Dr Claude Haller
Chef de Service
Service de chirurgie vasculaire et angiologie
Hôpital de Sion



Définitions

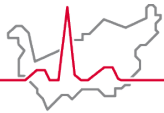
- **Sérome ou lymphocèle** : Un sérome est une **accumulation de liquide** sous la surface de la peau. Des séromas peuvent se développer **après une intervention chirurgicale**, le plus souvent au site de l'incision chirurgicale. Le liquide, appelé sérum, ne s'accumule pas toujours tout de suite. **L'enflure et le liquide peuvent commencer à s'accumuler plusieurs semaines après l'opération.**



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Définitions

- **Lymphorrhée** : écoulement de lymphe par la cicatrice. L'écoulement peut être dans les premiers jours post-opératoire ou survenir plus tard suite à la formation d'une sérome ou d'une lymphocèle.

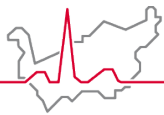


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Localisation

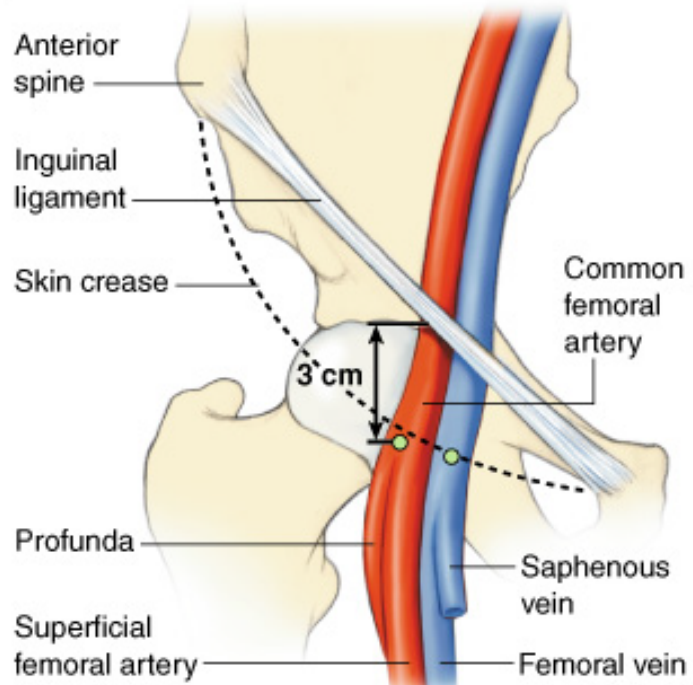
- La lymphocèle et la lymphorrhée sont donc des complications suite à une intervention chirurgicale.
- Leurs fréquences dépend du site opératoire

- 1. Plaie inguinale +++**
- 2. Plaie cuisse ++**
- 3. Plaie cervicale +**
- 4. Plaie jambe +**
- 5. Plaie de laparotomie**

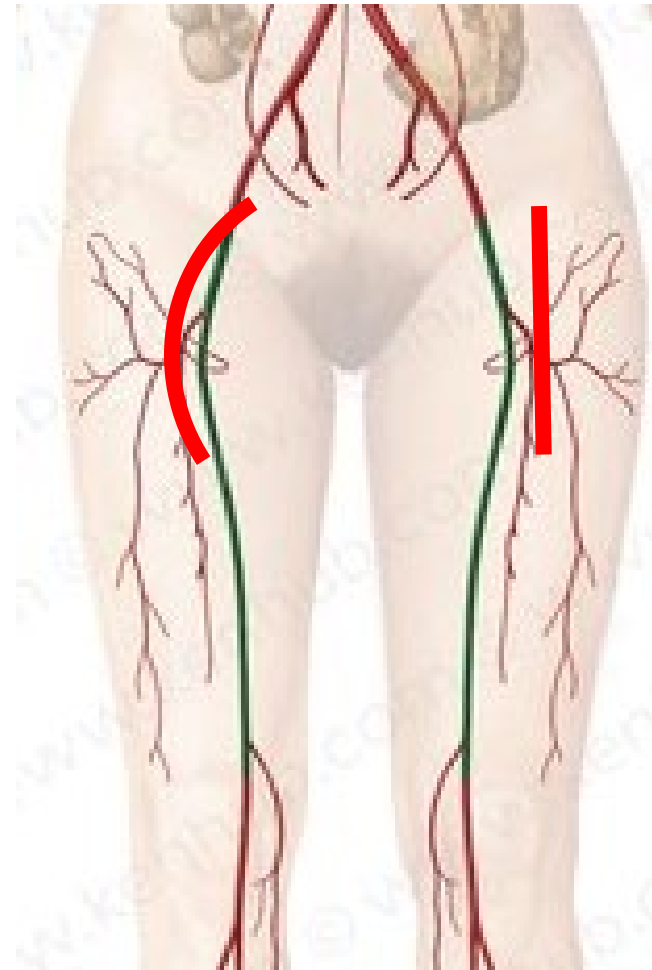


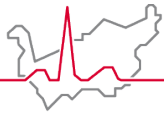
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Anatomie artères fémorales



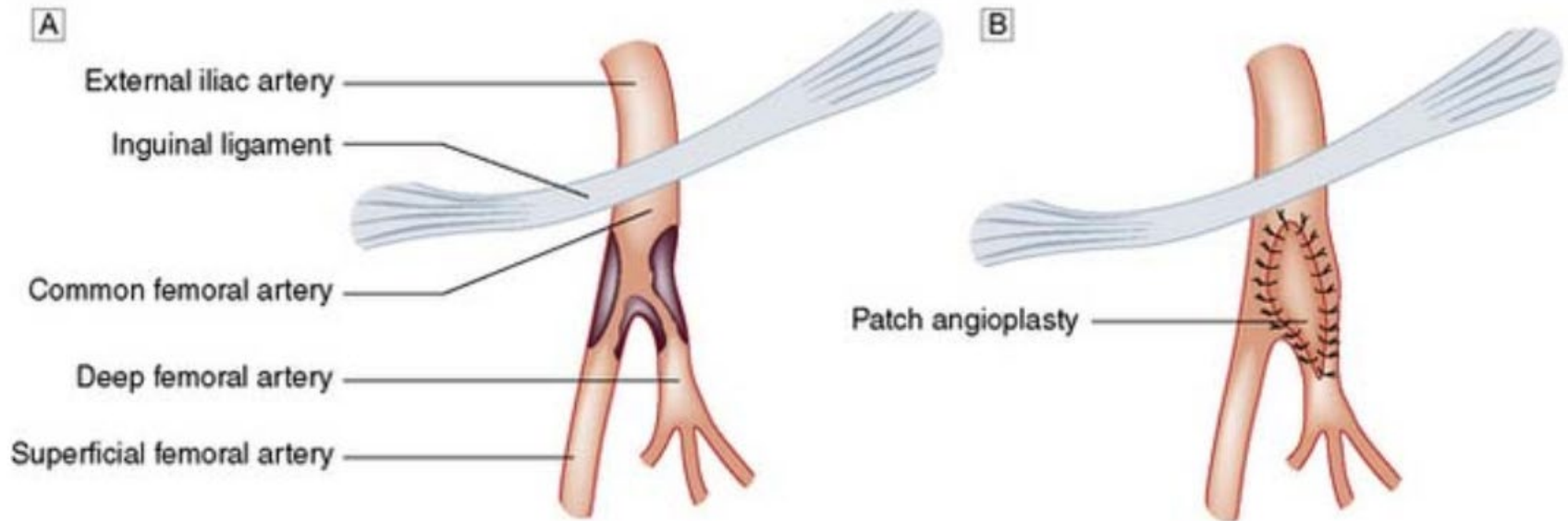
Elsevier 2015



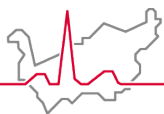


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Endartériectomie

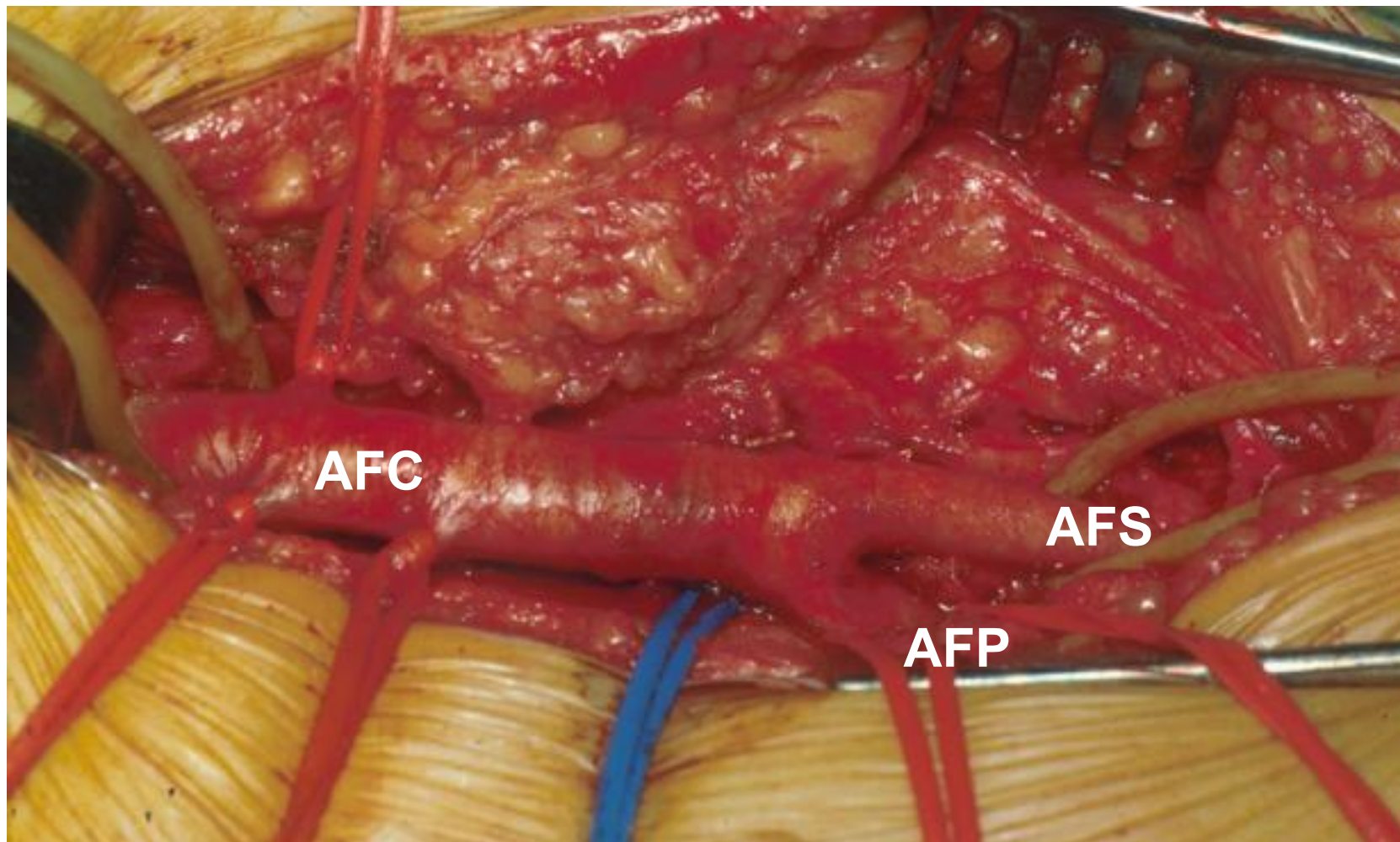


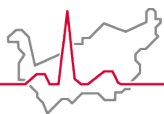
Bascimedical Key 2015



Hôpital du Valais
Spital Wallis

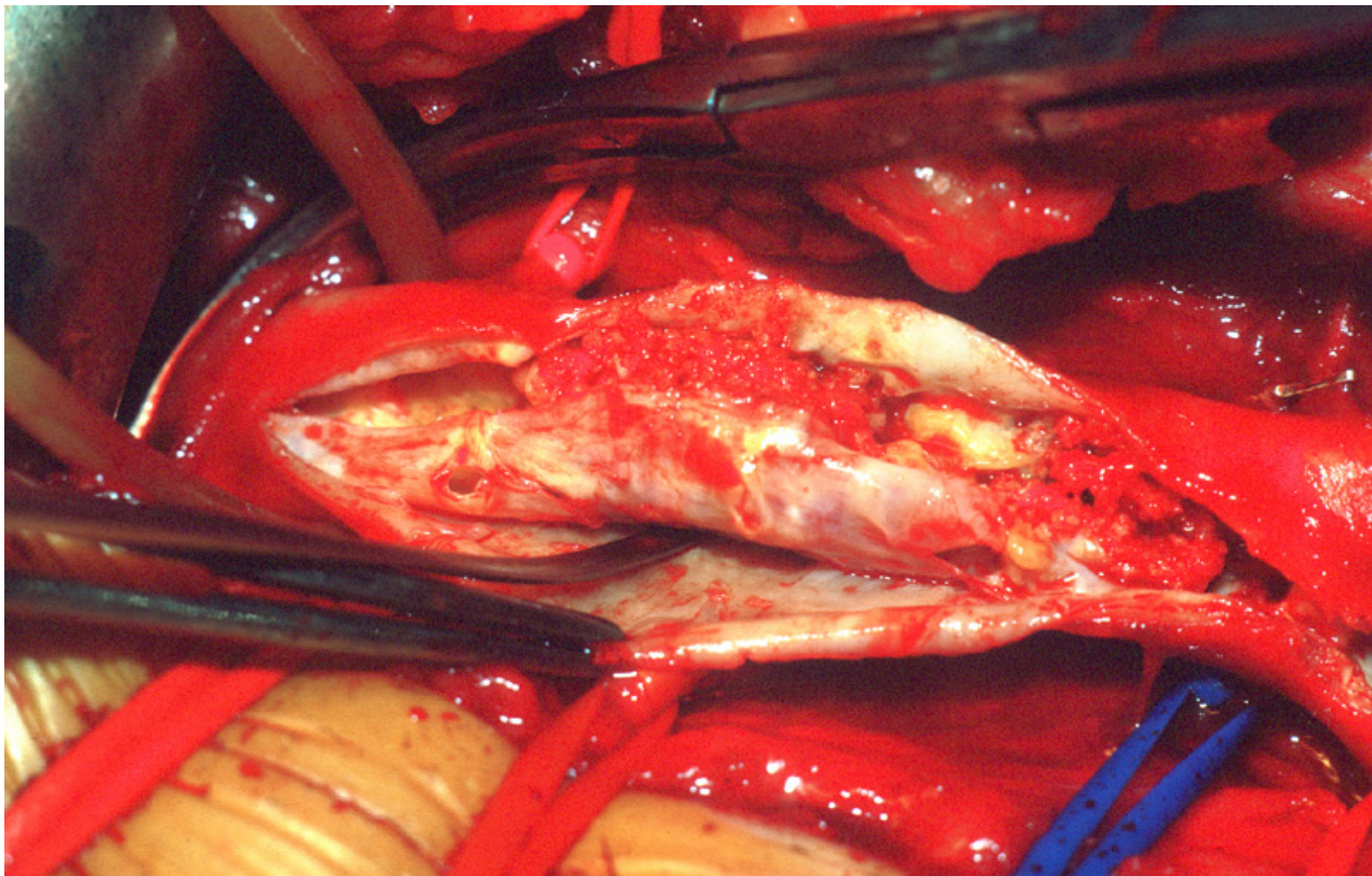
Endartériectomie

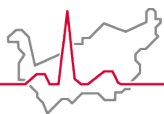




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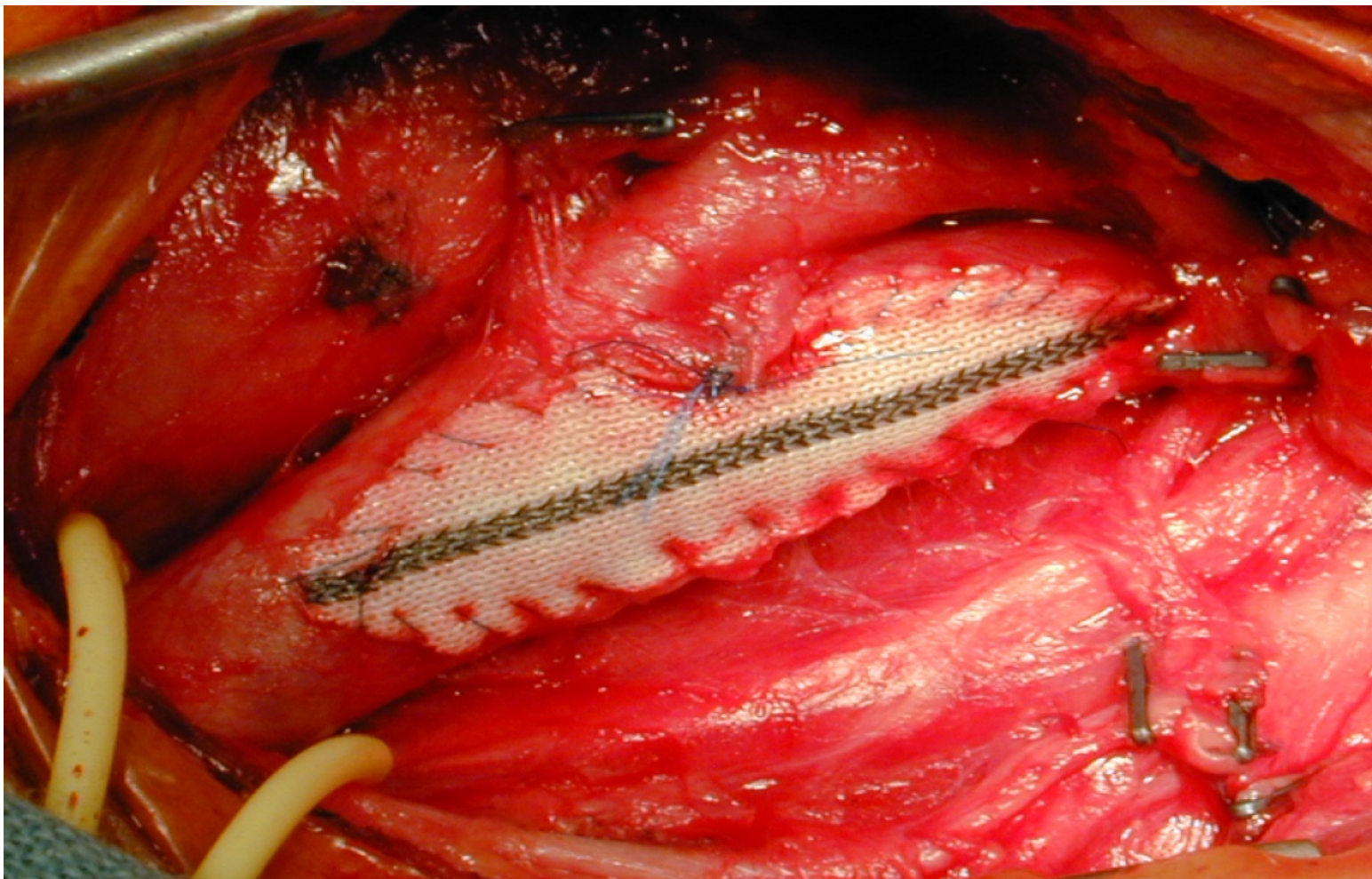
Endartériectomie

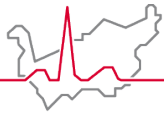




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Endartériectomie





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Littérature - Complications



ELSEVIER



Surgery

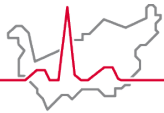
Volume 147, Issue 2, February 2010, Pages 268-274



Original Communication

Common femoral artery endarterectomy for occlusive disease: An 8-year single-center prospective study

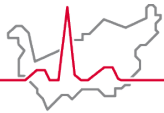
Enzo Ballotta MD ^a  , Mario Gruppo MD ^b, Franco Mazzalai MD ^b, Giuseppe Da Giau MD ^a



Results

In all, 117 patients were enrolled and underwent 121 procedures: 74 amputations, 60.3% for claudication and 39.7% for critical limb ischemia. 10 patients were excluded because they underwent a contemporary femoral-popliteal or femoral-bi-iliac femoral revascularization. All procedures were performed with percutaneous catheter techniques under regional anesthesia and took an average operating time of 1.3 ± 0.7 hours. There were no perioperative deaths or major complications, but 8 (6.6%) minor complications. A complete follow-up (mean 4.2 years) was obtained in 115 limbs. The 7-year PP, APP, and LS rates were 96%, 100%, and 100%, respectively. The 7-year rates of freedom from further revascularization were 79% and 80%, respectively.

Complications locales 6.6%



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Spital Wallis

Littérature - Complications





Journal of Vascular Surgery

Volume 64, Issue 4, October 2016, Pages 995-1001



Clinical research study

Results of common femoral artery thromboendarterectomy evaluation of a traditional surgical management in the endovascular era

Carola Marie Wieker MD ^a  , Eva Schönefeld MD ^{b, c}, Nani Osada DRM ^{b, c}, Christina Lühns MD ^{b, c}, Roland Beneking MD ^{b, c}, Giovanni Torsello MD ^{b, c}, Dittmar Böckler MD ^a

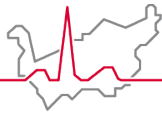
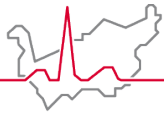


Table III. Perioperative complications

Complication	n (%) n = 713 limbs
Total complications	116 (16.3)
Procedure-related local revision	61 (8.6)
Lymphatic fistula	24 (3.4)
Wound infection	24 (3.4)
Groin hematoma	13 (1.8)
Procedure-related systemic complications	55 (7.7)
Cardiac	22 (3.1)
Pulmonary	12 (1.7)
Neurologic	12 (1.7)
Thrombotic	9 (1.3)

Complications locales 8.6%



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Spital Wallis

Littérature - Complications



Journal of Vascular Surgery



Volume 61, Issue 6, June 2015, Pages 1489-1494.e1

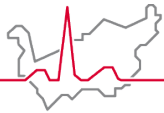


Clinical research study

Postoperative complications after common femoral endarterectomy

Presented at the Twenty-seventh Annual Meeting of the Eastern Vascular Society, White Sulfur Spring, WV, September 19-22, 2013.

Bao-Ngoc Nguyen MD  , Richard L. Amdur PhD, Mustafa Abugideiri BS, Rodeen Rahbar MD, Richard F. Neville MD, Anton N. Sidawy MD, MPH



Results: A total of 1843 CFEs reported from 2005 to 2010 met the inclusion criteria. The average operative time was 146 ± 69.5 minutes (median, 133; interquartile range, 100-166) and 10% of patients needed to return to the operating room. The average length of stay was 7.5 days (median, 3; interquartile range, 2-5 days); 91% of patients underwent minimally invasive surgery. Occurrences of cardiovascular events, renal dysfunction, and wound-healing problems were relatively low. There was 3.4% mortality and 8% wound-related morbidity, of which 86% occurred after hospital discharge, respectively. Overall, age, nonindependent functional status, and American Society of Anesthesiologists (ASA) class 4 or 5 were the strongest predictors of 30-day mortality. ASA class, sepsis, emergency status, and ASA class 4 or 5, and the association between risk strata and mortality were strong ($\phi = 0.29$) and significant ($P < .001$).

Conclusions: CFEs are a previously believed. The risks of death and wound complication are high. A high percentage of these complications occurred after hospital discharge. Patients should be carefully selected, especially in the elderly. Postoperative follow-up should be considered.

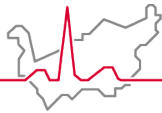
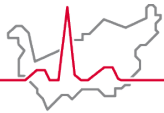


Table II. Intraoperative and postoperative outcomes

<i>Outcomes</i>	<i>Mean \pm SD or No. (%)</i>
Intraoperative	
Operative time, hours	2.4 \pm 1.16
Transfusion >4 units	51 (2.8)
Postoperative	
Mortality	62 (3.4)
Return to the operating room	188 (10.2)
Wound complications	147 (8)
Superficial infection	109 (5.9)
Deep wound infection	37 (2.0)
Wound dehiscence	15 (0.8)
Pneumonia	29 (1.6)
Prolonged intubation	26 (1.4)
Genitourinary tract infection	29 (1.6)
Sepsis	30 (1.6)
Septic shock	19 (1.0)
Graft failure	21 (1.1)
Cardiac arrest	17 (0.9)
Myocardial infarction	11 (0.6)
Acute kidney injury	5 (0.3)
Dialysis	11 (0.6)
Deep vein thrombosis	15 (0.8)
Pulmonary embolism	2 (0.1)

SD, Standard deviation.



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Littérature - Complications

Randomized Controlled Trial

➤ [Am J Surg.](#) 2009 Jun;197(6):747-51.

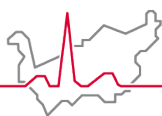
doi: [10.1016/j.amjsurg.2008.04.014](#). Epub 2008 Oct 17.

Wound complications at the groin after peripheral arterial surgery sparing the lymphatic tissue: a double-blind randomized clinical trial

Arianne J Ploeg ¹, Jan-Willem P Lardenoye, Mark-Paul F M Vrancken Peeters, Jaap F Hamming, Paul J Breslau

Affiliations + expand

PMID: 18929355 DOI: [10.1016/j.amjsurg.2008.04.014](#)



Abstract

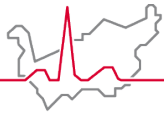
Background: The groin incision after arterial reconstruction is associated with infectious or lymphatic wound complications. Theoretically, a direct approach to the common femoral artery should minimize these. The aim of this study was to compare wound complications after the lateral versus the direct approach to the common femoral artery.

Methods: The study population was divided into two groups: direct and lateral approach to the common femoral artery between 2010 and 2015.

Results: After 6 months, the incidence of wound complications could be compared. A wound complication was observed in 5.1% in the direct group versus 6.0% in the lateral group. Infection was observed in 1.0% in the direct group versus 5.0% in the lateral group.

Conclusion: The difference for the approach of the common femoral artery did not have a significant impact on the rate of wound complications.

Lymphocèle après approche directe ou latérale sans différence



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Littérature - Complications




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The American Journal of Surgery

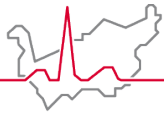
Volume 165, Issue 3, March 1993, Pages 341-344



Groin lymphorrhea complicating revascularization involving the femoral vessels

MD John R. Roberts¹ , PA-C Gerald K. Walters¹, MD Michael E. Zenilman¹, MD Calvin E. Jones¹

[Show more](#) 

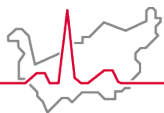


Seven (4%) of 193 patients developed lymphoceles in 8 (2%) after 211 arterial reconstructive procedures. Included

anatomic, and 105 infrainguinal revascularization in otherwise uncomplicated wounds in 6 (8%) incisions and bilaterally in 1 (1%) of 120 patients with incisions and may be related to the surgical technique, anatomic damage and inadequate wound closure in the increased incidence of

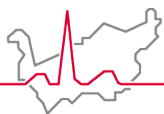
lymphorrhea was noted after aortic reconstruction regardless of the type of reconstruction, or when compared with patients who had undergone infrainguinal bypass ($p=0.14$). Each lymphocoele was associated with a small fistula spontaneously occurred in three. Diagnosis was made by clinical awareness and the appearance of the groin mass. Ultrasound was uniformly unsuccessful, and operative ablation of the lymphocoele proved to be definitive therapy.

**Lymphocèle Incision oblique
8% and 1% in vertical**



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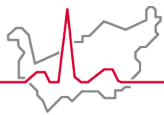
Traitements



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Lymphocèle

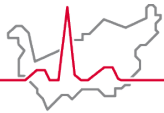




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Lymphocèle





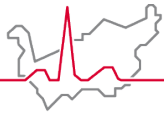
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Lymphocèle



DD : Hématome
Faux anévrisme
Abcès

- **Voussure** qui apparaît dans les jours ou semaines post-op
- **Molle et non dure**
- **Pas de dyscoloration (hématome)**
- **Fluctuant**
- **Pas de chaleur – rougeur (abcès)**



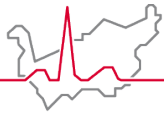
Lymphocèle - Traitement

Bilan angiologique si doute diagnostic

Traitement conservateur, tant qu'il n'y a pas d'infection et pas d'écoulement (Gêne est très rare).

Pas de ponction évacuatrice ou diagnostic (risque d'infection)

- **Bas de contention**
- **Compression**
- **Pas de drainage lymphatique de la jambe immédiat**



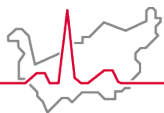
Lymphorrhée

Ecoulement séreux par la plaie

- qq gouttes à plusieurs dizaine de millilitres / j
- Apparition précoce
- Apparition tardive (à domicile)

Risques :

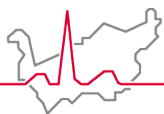
- **Macération**
- **Déhiscence**
- **Infection**



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Lymphorrhée et irritation de la plaie





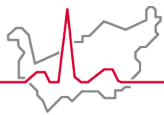
Hôpital du Valais
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Lymphorrhée peu importante - PICO



Smith+Nephew

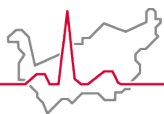




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Lymphorrhée importante - Infection

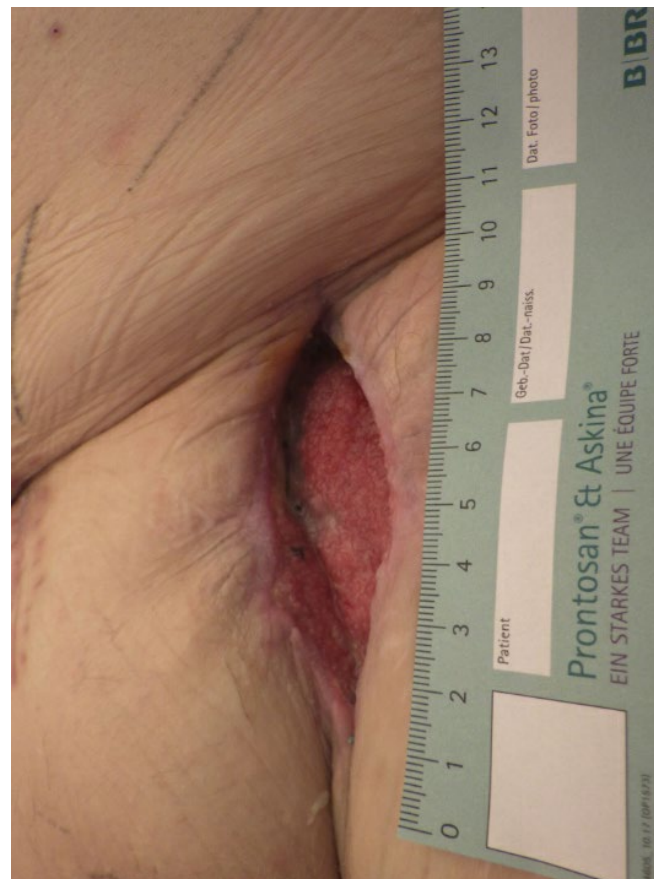
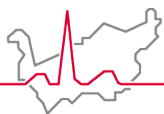


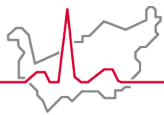


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Lymphorrhée - Lambeau muscle - TPN







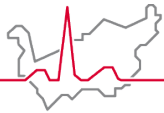
Lymphorrhée et infection

	Szilagy Classification [16]	Samson Classification [17]
Group 1	Infection involves only the dermis	Infection extends no deeper than the dermis
Group 2	Infection extends into the subcutaneous tissue but does not invade the arterial implant	Infection involves subcutaneous tissues but does not come into grossly observable direct contact with the graft
Group 3	The arterial implant proper is involved in the infection	Infection involves the body of the graft but not at an anastomotic site

Szilagy 1 : TPN

Szilagy 2 : TPN et lambeau musculaire

Szilagy 3 : TPN et lambeau musculaire
Changement de prothèse - Patch



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Littérature - Traitement

Article

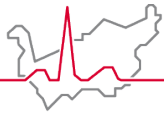
December 1979

Management of Lymph Fistula in the Groin After Arterial Reconstruction

Jack H. M. Kwaan, MD; Joseph M. Bernstein, MD; John E. Connolly, MD

» Author Affiliations

Arch Surg. 1979;114(12):1416-1418. doi:10.1001/archsurg.1979.01370360070008



Abstract

• Leakage of lymph from the inguinal incision is a rare but disturbing complication. This article describes our experience in the management of 12 patients in whom lymphatic leakage occurred after reconstruction. Seven patients were treated with pressure dressings. In the other five-patient group, fistula healing was delayed up to four weeks, and wound healing was delayed up to six weeks. One patient eventually required removal of the prosthetic limb. In all cases, conservative treatment and direct ligation of ruptured lymphatics was successful. Conservative treatment was shortened and wound infection prevented by the use of pressure dressings. Pressure as the preferred approach in the management of lymphatic leakage after reconstruction when synthetic graft material is present.

(Arch Surg 114:1416-1418, 1979)

Conservatif

17
4 sem

Opératoire

Exploration chirurgie
Pas d'infection 0/5
Dure hosp diminuée

Article

12

7

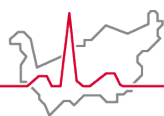
patients.

any groin reexploration

nts. Hospitalization

and prompt operative closure

vascular reconstruction, especially



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Littérature - Traitement

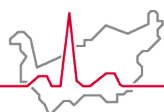
➤ [Ann Vasc Surg.](#) 2020 Jan;62:382-386. doi: 10.1016/j.avsg.2019.06.011. Epub 2019 Aug 23.

Treatment of Lymphatic Complications after Common Femoral Artery Endarterectomy

Christian Uhl ¹, Hannah Götzke ², Sandra Woronowicz ², Thomas Betz ², Ingolf Töpel ², Markus Steinbauer ²

Affiliations + expand

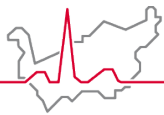
PMID: 31449944 DOI: [10.1016/j.avsg.2019.06.011](#)



Methods: This is a retrospective study including patients who had a lymendarterectomy and patch of the common femoral artery in our center between 2010 and 2018. Therapy of choice was selected according to wound site and signs of a wound infection occurred, a surgical therapy or a conservative treatment (conservative treatment, radiotherapy) was chosen.

Results: We performed 977 index operations. Lymphatic complications occurred in 112 cases (11.5%). In 69 cases the lymphatic complication was a lymphorrhea from the wound (Group 1), in 43 cases as a lymphorrhea from the patch (Group 2). A muscle flap in combination with an NWPT was done in 66 cases (Group 1: 76.8% vs. Group 2: 30.2%; $P < 0.001$). A NWPT was necessary in 46 cases (Group 1: 23.2% vs. Group 2: 69.8%; $P < 0.001$). Szilagyi 1 infection in 25 cases, Szilagyi 2 infection in 11 cases, Szilagyi 3 infection in 7 cases. Patients with Szilagyi 1 infections received a muscle flap in combination with an NWPT was performed in 11 cases. In Szilagyi 3 infections, the patch was replaced; additional NWPT were performed. The median hospital stay was 13 days in the non-surgical group and 14 days in the surgical group. We had no bleeding complications and no reinfection. The median observation period was 23.0 months. Age ≥ 80 years was associated with an increased risk for lymphatic complications.

Drainage – TPN – Lambeau musculaire



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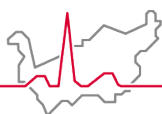
Littérature - Traitement

Observational Study > [Pol Przegl Chir. 2013 Dec;85\(12\):687-92. doi: 10.2478/pjs-2013-0105.](#)

The evaluation of the effectiveness of Tachosil in the treatment of lymphorrhea of the postoperative wound in the selected group of patients, after vascular reconstructive surgeries--preliminary report

[Marek Iłzecki, Tomasz Zubilewicz, Stanisław Przywara, Piotr Terlecki](#)

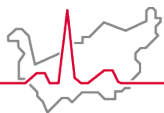
PMID: 24468588 DOI: [10.2478/pjs-2013-0105](#)



Material and methods: The observed group included 10 patients with lymphedema during the postoperative period. 6 of the observed patients have undergone reconstructive surgery with the implantation of the vascular prosthesis: iliofemoral reconstruction bridge - 3 patients; iliofemoral reconstruction with the use of the prosthesis of the common femoral artery (CFA) with the use of the prosthesis - 1 patient; iliofemoral reconstruction with the use of the bifurcated (type Y) aortofemoral prosthesis - 1 patient. 4 of the observed group have undergone the restoration of patency of the common femoral artery. 1 patient has undergone the resection of the pseudo aneurysm in the common femoral artery. The vascular reconstructive surgery required the resection of the common femoral artery from the surrounding tissue as a step 1. The postoperative wound, in the volume of more than 200 ml per day, indicated the necessity for the inguinal wound revision. The patch was applied at that time. The drain was placed over Tachosil.

Results: The average hospitalization time was shorter by 4.87 days in patients treated with the use of Tachosil compared to the control group. These patients also had an average hospitalization time shorter by 4.87 days in the control group.

Benefice du Tachosil dans le traitement chirurgical



Hôpital du Valais
Spital Wallis

**Merci pour votre
attention**