Gemelli

Fondazione Policlinico Universitario Agostino Gemelli IRCCS
Università Cattolica del Sacro Cuore

GAVeCeLT 2024

GAVeCeLT
Gli Accessi Venosi Centrali a Lungo Termine

I port femorali, oggi

Bruno Marche

Indicazioni al port femorale

Le stesse di qualsiasi port:

- Utilizzo ambulatoriale,
- Infrequente (meno di 1 volta a settimana),
- Maggiore di 4 mesi.

Ma con l'impossibilità di raggiungere la VCS:

- Tumori ematologici con impegno mediastinico o laterocervicale bilaterale;
- Stenosi/trombosi delle vene del distretto toraco-cervicale;
- Casi particolari…

Letteratura di riferimento

Bertoglio 1996

Clinical Trial > Eur J Surg Oncol. 1996 Apr;22(2):162-5. doi: 10.1016/s0748-7983(96)907

Long-term femoral vein central venous access in cancer patients

S Bertoglio [1], C DiSomma, P Mesz

Wolosker 2004

European Journal c
(E)
Volume 30, Issue 7, Sept

Totally implantable femoral catheters in cancer patients

N Wolosker, G Yazbek, M.A Munia, A.E Zerati

Chen 2008

A safe and effective method to implant a totally implantable access port in patients with synchronous bilateral mastectomies: Modified femoral vein approach

Shih-Yi Chen MD, Chien-Hua Lin MD, Hao-Ming Chang MD, Huan-Ming Hsu MD, Jyh-Cherng Yu MD

First published: 14 August 2008 | https://doi.org/10.1002/jso.21048 | Citations: 20

Femoral placement of totally implantable venou power ports as an alternative implantation site patients with central vein occlusions

Clinical Trial > J Surg Oncol. 2016 Dec;114(8):1024-1028. doi: 10.1002/jso.244

Epub 2016 Sep 22.

Huang 2007

CASE REPORTS | SEPTEMBER 27 2007

Totally Implantable A Approach via Femora

Subject Area: Gastroenterology, Surgery

Wen-Hao Huang; Chu-Hsin Chuang; Jyh-Cherng Yu; Hurng-Sheng Wu; Chien-Hua Lin

Kato 2016

Totally implantable venous access port via the femoral vein in a femoral port positio venography

Kazuya Kato [1], Yoshiaki Iwasaki [2], Kazuhiko Onodera [3], Mineko Higu
Yurina Kato [1], Minoru Matsuda [4], Seiya Endo [1], Yuko Kobashi [5], Mas

Almati-Sperling 2016

> Geburtshilfe Frauenheilkd. 2016 Jan;76(1):53-58. doi: 10.1055/s-0035-1558173.

emoral Placement of Totally Implantable Venous cess Ports in Patients with Bilateral Breast Cancer

nasi-Sperling [1], S Hieber [1], J Lermann [2], O Strahl [2], M W Beckmann [2], W Lang [1], Sagban [1]

Cherkashin 2018

Case Reports > Cureus. 2018 Mar 14;10(3):e2327. doi: 10.7759/cureus.2327.

Femoral Access for Central Venous Port System Implantation

Mikhail Cherkashin [1], Natalia Berezina [2], Denis Puchkov [2], Kirill Suprun [1], Petr Yablonsky [3]

Kondo 2020

> CVIR Endovasc. 2020 Jan 6;3(1):2. doi: 10.1186/s42155-019-0094-9.

Femoral placement of a totally implantable venous access port with spontaneous catheter fracture: case report

Tomohiro Kondo [1], Shigemi Matsumoto [2], Keitaro Doi [1], Motoo Nomura [1], Manabu Muto [1]

Accessi venosi femorali, due novità

JVA The Journal of Vascular Access

Editorial

Femoral venous access: State of the art and future perspectives

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Maria Giuseppina Annetta[1], Stefano Elli[2], Bruno Marche[1], Fulvio Pinelli[3] and Mauro Pittiruti[1]

1. Vena femorale superficiale
2. Tip location ecografica

1. Vena femorale superficiale

Editorial

JVA The Journal of Vascular Access

Femoral venous access: State of the art and future perspectives

Maria Giuseppina Annetta[1], Stefano Elli[2], Bruno Marche[1], Fulvio Pinelli[3] and Mauro Pittiruti[1]

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Annetta 2023

Techniques in vascular access

JVA The Journal of Vascular Access

Ultrasound-guided cannulation of the superficial femoral vein for central venous access

Maria Giuseppina Annetta, Bruno Marche, Laura Dolcetti, Cristina Taraschi, Antonio La Greca, Andrea Musarò, Alessandro Emoli, Giancarlo Scoppettuolo and Mauro Pittiruti

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Annetta 2021

Ostroff 2022

Use of the Superficial Femoral Vein in t
Contracted Patient

Matthew D. Ostroff & Mark W. Connolly

Chapter | First Online: 01 December 2022

Restricted access | Research article | First published online December 25, 2019

Cannulation of the superficial femoral vein at mid-thigh when catheterization of the superior vena cava system is contraindicated

Linfang Zhao, Xiuzhu Cao, a

Zhao 2019

Restricted access | Research article | First published online February 19, 2018

The feasibility and safety of PICCs accessed via the superficial femoral vein in patients with superior ve
cava syndrome

Yonghui Wan, Yuxin Chu, [...] and Qibin Song +3 View all authors and affiliations

Volume 19, Issue 1 | https://doi.org/10.5301/jva.5000810

Wan 2018

Ostroff 2018

Case Report

Review and Case Studies of Midthigh Femoral Central Venous Catheter Placement

Matthew Ostroff MSN, APN-BC, VA-BC™, CRNI®, CPUI,
Nancy Moureau RN, PhD, VA-BC™, CPUI, CRNI®, Mourad Ismail MD, FCCP

Vena femorale comune

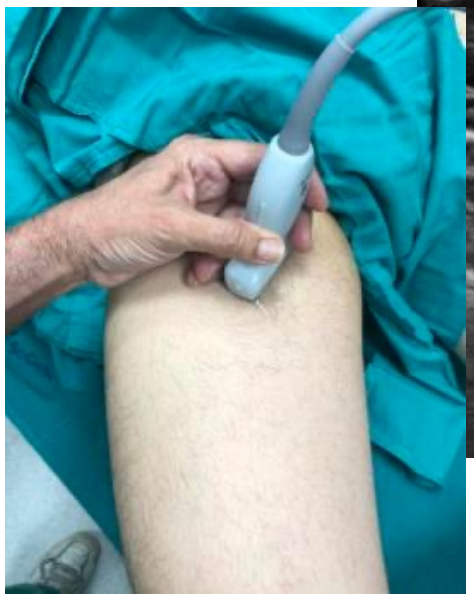
Vena femorale superficiale

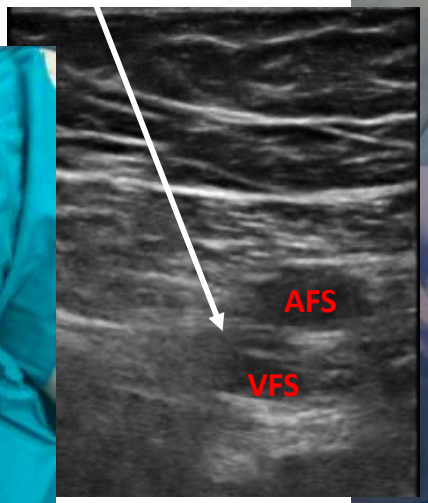
- **Asse corto out-of-plane**
- **Asse obliquo in-plane**
- **No tunnellizzazione**

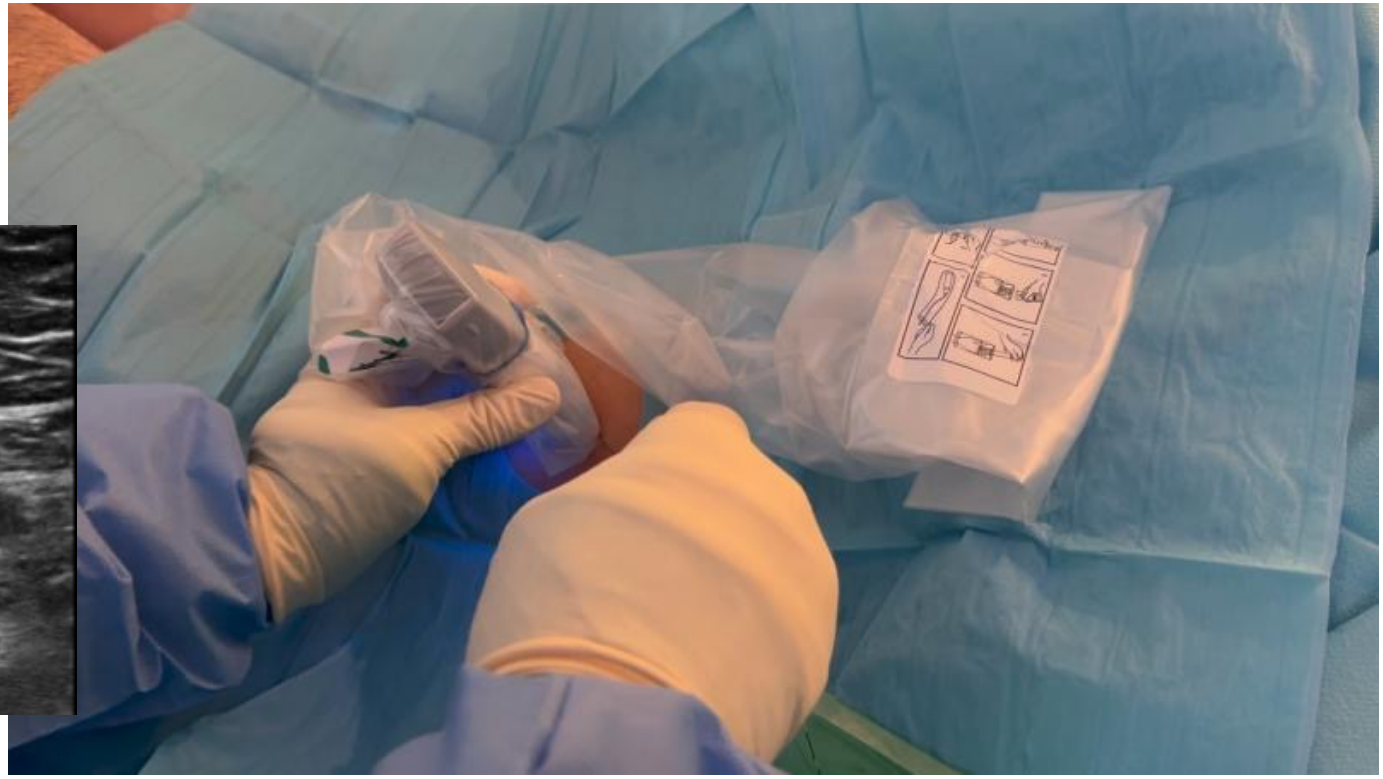
Puntura asse obliquo *in-plane*

RaFeVA Step 7

Semi-rotazione della sonda e visualizzazione della arteria femorale superficiale e della vena femorale superficiale, in asse obliquo.







Nostra prima esperienza

Ultrasound-guided cannulation of the superficial femoral vein for central venous access

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Maria Giuseppina Annetta, Bruno Marche, Laura Dolcetti, Cristina Taraschi, Antonio La Greca, Andrea Musarò, Alessandro Emoli, Giancarlo Scoppettuolo and Mauro Pittiruti

Studio retrospettivo
Giugno-dicembre 2020
98 pazienti

	Intra-hospital use	Extra-hospital use
Number of patients	52	46
Sex		
- Male > 18 years old	25	20
- Male < 18 years old	2	–
- Female	25	26
Catheter size/lumens		
- 5 Fr double lumen	44	6
- 4 Fr single lumen	8	40
Tip position		
- Right atrium	4	–
- Mid-portion of IVC	48	46
Exit site location		
- Thigh, middle third	32	20
- Thigh, distal third	20	26

Indicazioni

- Pazienti agitati non-collaboranti (n=40)
- Pazienti allettati destinati a hospice (n=27)
- Ostruzione VCS (n=19)
- Epatopatia con grave anomalia coagulazione (n=4)
- Pazienti settici in NIV (Helmet) (n=2)
- Pazienti con catetere da dialisi + pacemaker (n=2)
- Pazienti con FAV + rifiuto di CICC (n=2)
- Grave coagulopatia, PICC impossibile (n=1)
- SLA + rifiuto di CICC (n=1)

Aspetti tecnici

- Diametro VFS: 4-8 mm
- Profondità VFS: 3-6 cm
- Puntura
  - asse corto OOP (n=52), asse obliquo IP (n=46)
- Posizione della punta
  - VCI (n=94), atrio destro (n=4)

Complicanze

- Immediate
  - 1 puntura arteriosa
  - 1 kinking
- Precoci
  - 1 kinking (necessaria sostituzione su guida)
- Tardive
  - Nessuna trombosi
  - Nessuna CRBSI
  - 1 dislocazione

Conclusioni dello studio

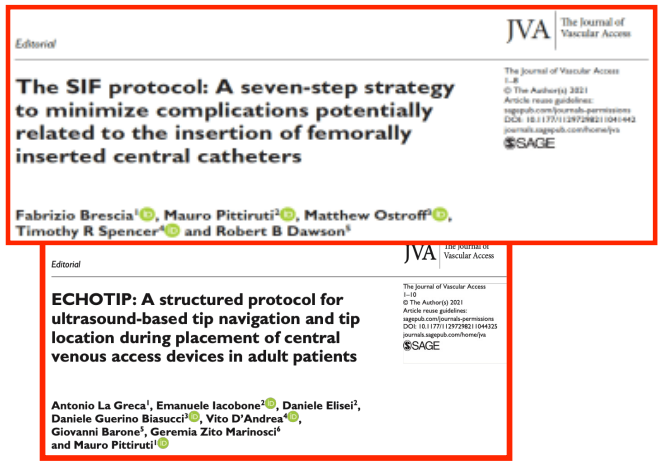
Case Reports > Cureus. 2018 Mar 14;10(3):e2327. doi: 10.7759/cureus.2327.

Femoral Access for Central Venous Port System Implantation

Mikhail Cherkashin [1], Natalia Berezina [2], Denis Puchkov [2], Kirill Suprun [1], Petr Yablonsky [3]

- Nuove indicazioni per i FICC
- VFS VS VFC:
  - VFS miglior exit site
  - VFS tunnel non strettamente necessario
  - VFS minor rischio di complicanze

2. Tip location ecografica



Editorial

JVA The Journal of Vascular Access

The SIF protocol: A seven-step strategy to minimize complications potentially related to the insertion of femorally inserted central catheters

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Fabrizio Brescia[1], Mauro Pittiruti[2], Matthew Ostroff[3], Timothy R Spencer[4] and Robert B Dawson[5]

Editorial

JVA The Journal of Vascular Access

ECHOTIP: A structured protocol for ultrasound-based tip navigation and tip location during placement of central venous access devices in adult patients

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Antonio La Greca[1], Emanuele Iacobone[2], Daniele Elisei[2], Daniele Guerino Biasucci[3], Vito D'Andrea[4], Giovanni Barone[5], Geremia Zito Marinosci[4] and Mauro Pittiruti[1]

E. Use tip locating methods to identify CVAD tip location during the insertion procedure (ie, "real-time") for neonate, pediatric, and adult patients. Studies have demonstrated greater accuracy, more efficient initiation of infusion therapy, and re

Consider the use of ultrasound for CVAD tip location. The clinical applicability of this is currently limited by the small sample sizes used to demonstrate its efficacy as a reliable and safe method to replace chest radiographs in all ages, and its usefulness is limited by the knowledge, skill, and experience of the operator.[6,33-38] (III)

a. The addition of agitated saline to enhance transthoracic echocardiography has been shown to be effective in detecting catheter tip position in the lower third of the SVC, as well as detecting catheter malposition through delayed opacification and reduced echogenicity.[6,39] (IV)

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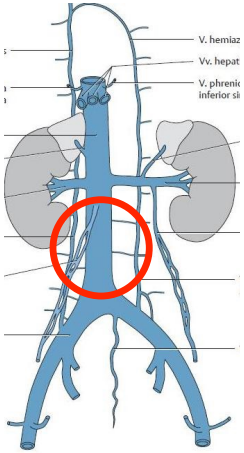

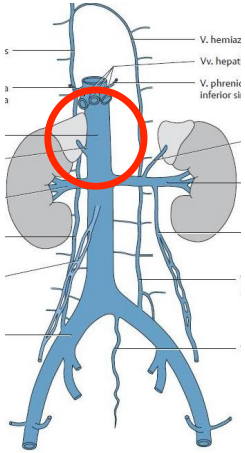

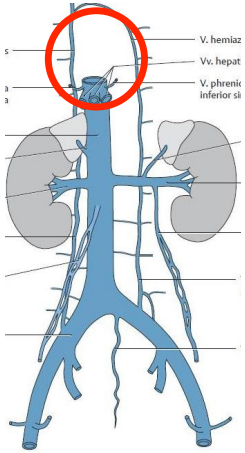

2. For lower body insertion sites, position the CVAD tip in the inferior vena cava (IVC) above the level of the diaphragm.[4-6] (IV)

4. Subramanian S, Moe DC, Vo JN. Ultrasound-guided tunneled lower extremity peripherally inserted central catheter placement in infants. *J Vasc Interv Radiol*. 2013;24(12):1910-1913. doi:10.1016/j.jvir.2013.08.020
6. Franco-Sadud R, Schnobrich D, Mathews BK, et al. Recommendations on the use of ultrasound guidance for central and peripheral vascular access in adults: a position statement of the Society of Hospital Medicine. *J Hosp Med*. 2019;14:E1-E22. doi:10.12788/jhm.3287

2. Tip location ecografica

Techniques in vascular access

Applicability and feasibility of intraprocedural tip location of femorally inserted central catheters by transhepatic ultrasound visualization of the inferior vena cava in adult patients

Maria Giuseppina Annetta[1], Bruno Marche[1], and Mauro Pittiruti[1]

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Annetta 2023

Techniques in vascular access

JVA The Journal of Vascular Access

Ultrasound based tip location of femorally inserted central catheters into the inferior vena cava: A comparison between the transhepatic and the subcostal view

Maria Giuseppina Annetta[1], Bruno Marche[2], Giovanna Mercurio[1] and Mauro Pittiruti[3]

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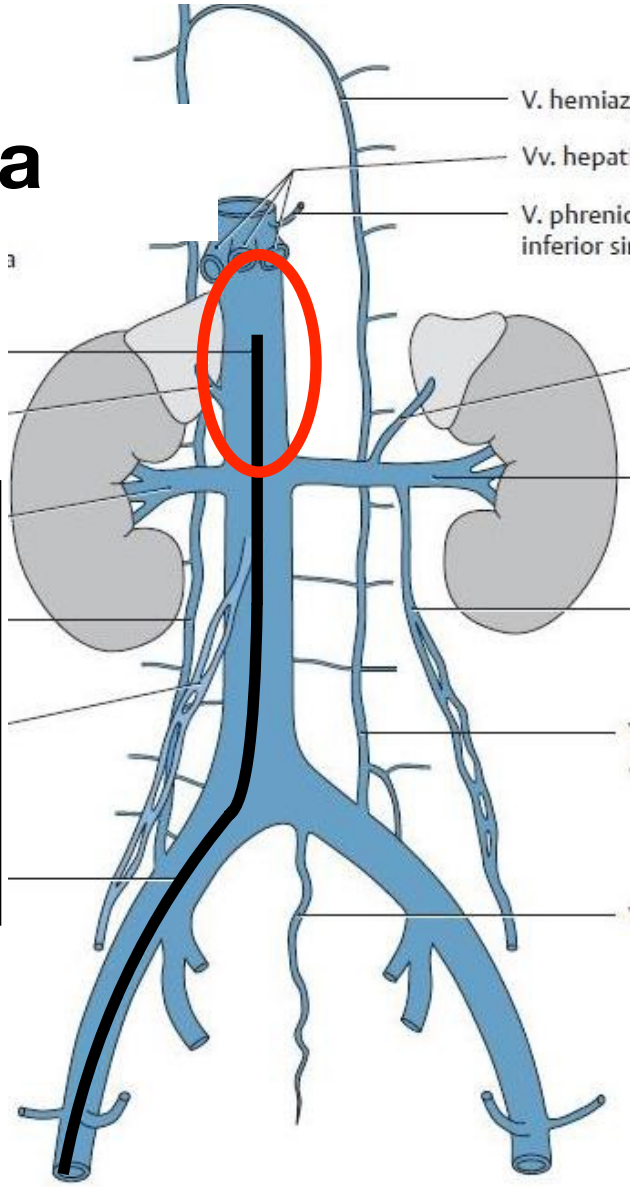
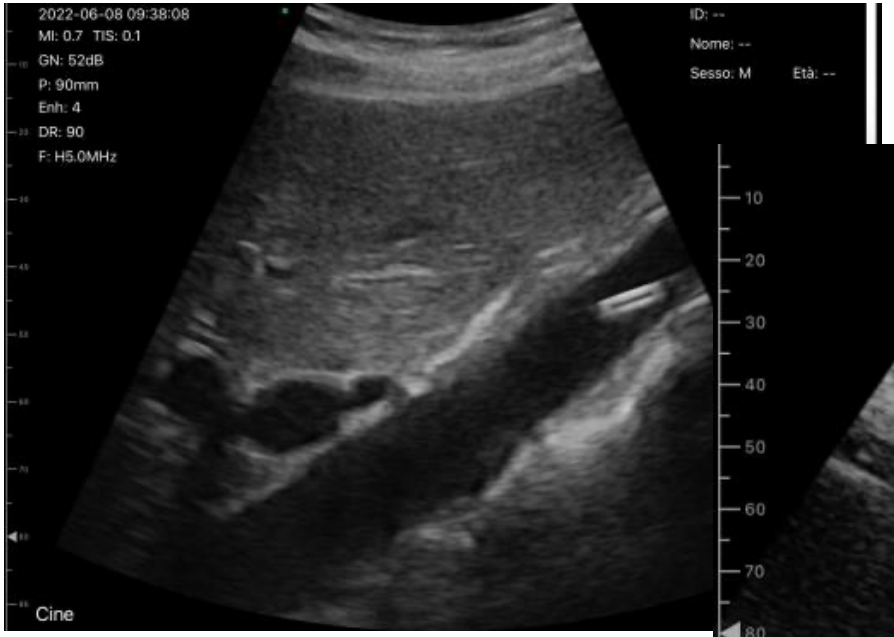
- **Finestra transepatica**
- **Finestra sottocostale**



Tip location con ecoscopia transepatica con bubble test

Tip location con ecoscopia sottocostale con bubble test



Un nuovo approccio: il FICC port

Original research article

JVA The Journal of Vascular Access

Totally implanted central venous access devices inserted by the femoral route: A narrative review and the proposal of a novel approach, the FICC-port

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Maria Giuseppina Annetta[1], Bruno Marche[2], Gloria Ortiz Miluy[3] and Mauro Pittiruti[4]

Annetta 2024

Abstract

Background: Femoral ports are used in patients with indication to a totally implanted venous access device but with contraindication to chest-ports and brachial ports because of obstruction of the superior vena cava. In the last three decades, femoral ports have been implanted almost exclusively by cannulation of the common femoral vein at the groin, while the position of the tip has been assessed by X-ray.

Methods: We report our experience with a new approach to femoral ports, which includes recent methods and techniques developed in the last few years. These novel femoral ports, which we call "FICC-ports," are characterized by (a) long femoral 5 Fr polyurethane catheter inserted by ultrasound-guided puncture of the superficial femoral vein at mid-thigh; (b) intraprocedural location of the tip in the sub-diaphragmatic inferior vena cava, using ultrasound visualization by the transhepatic and/or the subcostal view; (c) low-profile or very low-profile reservoir implanted above the quadriceps muscle, at mid-thigh.

DH Ematologia, Fondazione Policlinico Universitario Agostino Gemelli, IRCCS, Roma

Novembre 2020- agosto 2023: 47 FICC-port

- VFS (dx 42, sn 5)
- Diam. 6-8 mm
- Prof. 4-6 cm
- Asse corto out-of-plane 35
- Asse obliquo in-plane 12
- Tip location in VCI sottodiaframmatica
- Lunghezza catetere 45-58 cm
- Reservoir low profile 35, very low profile 12

- LH-LNH con impossibilità di raggiungere la VCS
- Età 20-34 anni
- 33 maschi
- 14 femmine
- CHT ogni 2-3 settimane, mediamente per 6 mesi

DH Ematologia, Fondazione Policlinico Universitario Agostino Gemelli, IRCCS, Roma

Novembre 2020- agosto 2023: 47 FICC-port

Complicanze immediate-precoci

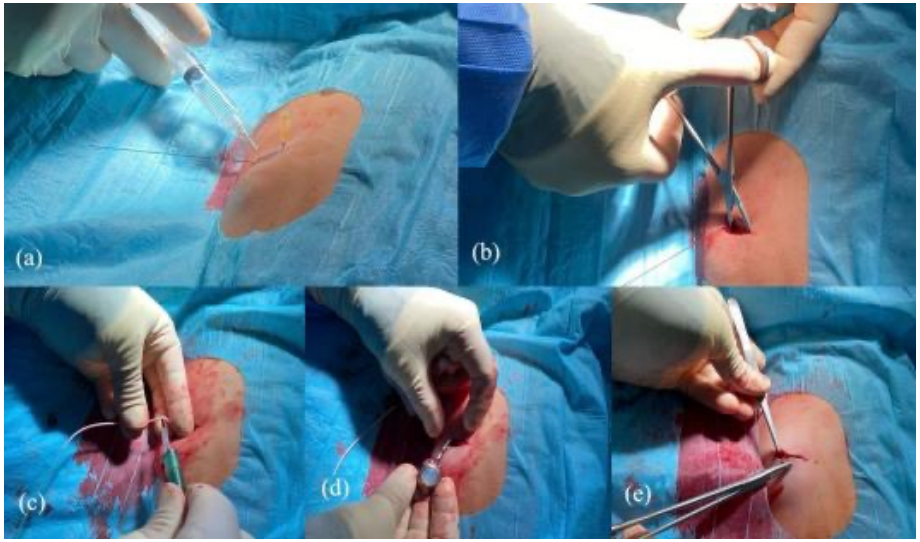
- 0 punture arteriose
- 0 punture nervose
- 0 malposizioni primarie
- 0 ecchimosi significative
- 0 ematomi

Complicanze tardive

- 0 CRBSI
- 2 malposizioni secondarie scoperte per PWO (1 complicata con trombosi)
- 2 PWO con catetere correttamente posizionato
- 1 kink del catetere nel sottocute

N.B.

- Il FICC-port ideale è il dispositivo che viene commercializzato come PICC-port
  - Lunghezza e calibro adeguati (5Fr x 70cm)
  - Reservoir low profile o very low profile
  - Kit di microintroduzione sempre inclusi
- Preferibilmente in poliuretano, perché più rigido del silicone



Original research article

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Maria Giuseppina Annetta[1], Bruno Marche[2], Gloria Ortiz Miluy[3] and Mauro Pittiruti[4]

Conclusion: if there is indication to a femoral port, the implantation of a "FICC-port" is to be strongly considered in terms of safety, effectiveness, and cost-effectiveness: no immediate-early complications, minimal late complications, no X-ray exposure, low invasiveness, low cost.

Grazie per l’attenzione

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