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Università Cattolica del Sacro Cuore

GAVeCeLT
Gli Accessi Venosi Centrali a Lungo Termine

I PICC IN ONCOLOGIA: SCELTA TRA PICC E PICC-PORT

MAURO PITTIRUTI

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PICC-PORT = MEDESIME INDICAZIONI DEI PORT TORACICI

- Quindi: il problema è la indicazione PICC vs. port

- Negli ultimi anni: è diventato di moda confrontare **PICC vs. port** (ovvero, due dispositivi che nascono con indicazioni diverse….)

(cfr. anche i recenti lavori di confronto **PICC vs. Midline** – confronto privo di senso!)

BJA

2019

British Journal of Anaesthesia, 122 (6): 734–741 (2019)

doi: 10.1016/j.bja.2019.01.038
Advance Access Publication Date: 17 April 2019
Clinical Practice

Clinical impact of peripherally inserted central catheters *vs* implanted port catheters in patients with cancer: an open-label, randomised, two-centre trial

Knut Taxbro[1,2,*], Fredrik Hammarskjöld[1,2], Bo Thelin[3], Freddi Lewin[3], Helga Hagman[4], Håkan Hanberger[1,5] and Sören Berg[1,6]

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Confronto randomizzato
PICC vs. port (200 vs. 200)

PICC 8% CRT
Port 1% CRT

*Nessuna informazione su come erano inseriti i PICC

*Incidenza di CRT anomala per la letteratura corrente sui PICC

*popolazione di pazienti in cui vi era netta indicazione a port e non a PICC

Cancer Management and Research

2020

Dovepress
open access to scientific and medical research

Open Access Full Text Article

ORIGINAL RESEARCH

Central Venous Catheter Insertion in Colorectal Cancer Patients, PICC or PC?

This article was published in the following Dove Press journal:
Cancer Management and Research

Lijuan Yin
Jinhua Li

Center of Oncology, Jiangsu Province Hospital, Nanjing, People's Republic of China

Purpose: Central venous catheters (CVCs) have been demonstrated as a feasible method for chemotherapy delivery in colorectal cancer patients. The objective of our study was to explore the preference of colorectal cancer patients (89%) in our institution for port catheters (PCs) through comparing the costs and complications between peripherally inserted central venous catheters (PICCs) and PCs.

Methods: Overall, 777 colorectal cancer patients (89%) were eligible for central venous catheter (CVC) insertions from January 1, 2017, to January 1, 2019. We retrospectively compared the costs and complications following the introduction of PICCs and PCs in the infusion of intravenous chemotherapy agents in patients with colorectal cancer.

Results: A total of 773 colorectal patients were enrolled. The total cost of PICC and PC was US $436.20 and US $976, respectively. The complication rate was higher in the PICC compared with the PC group (45% versus 4%, P <0.001). The late complication rate of the two groups was particularly pronounced (52% versus 7%, p < 0.001). The incidence rate of total complications, that were developed in patients, with and without hemostatic prophylaxis, was 0.7% versus 5.7% (p < 0.001).

Conclusion: Port devices are associated with higher costs but fewer complications, compared to PICC in patients with colorectal cancer.

Keywords: central venous catheter, CVC, colorectal cancer, port catheter, PC, peripherally inserted central venous catheter, PICC, complication, cost

Studio retrospettivo
PICC vs. port

Costi PICC < port
Complicanze PICC > port

*Nessuna informazione sulla indicazione clinica a PICC o port; apparentemente, tutti pazienti con chiara indicazione al port

*Incidenza anomala (elevata!) di ogni tipo di complicanza, in entrambi i gruppi

*procedure antiquate sia per i PICC che per i port

- cateteri in silicone
- eparinizzazione
- utilizzo incostante dell'ecografo
- fluoroscopia
- etc.

Central venous access devices for the delivery of systemic anticancer therapy (CAVA): a randomised controlled trial

Jonathan G Moss, Olivia Wu*, Andrew R Bodenham, Roshan Agarwal, Tobias F Menne, Brian L Jones, Robert Heggie, Steve Hill, Judith Dixon-Hughes, Eileen Soulis, Evi Germeni, Susan Dillon, Elaine McCartney, on behalf of the CAVA trial group†*

Summary

Background Hickman-type tunnelled catheters (Hickman), peripherally inserted central catheters (PICCs), and totally implanted ports (PORTs) are used to deliver systemic anticancer treatment (SACT) via a central vein. We aimed to compare complication rates and costs of the three devices to establish acceptability, clinical effectiveness, and cost-effectiveness of the devices for patients receiving SACT.

Methods We did an open-label, multicentre, randomised controlled trial (Cancer and Venous Access [CAVA]) of three central venous access devices: PICCs versus Hickman (non-inferiority; 10% margin); PORTs versus Hickman (superiority; 15% margin); and PORTs versus PICCs (superiority; 15% margin). Adults (aged ≥18 years) receiving SACT (≥12 weeks) for solid or haematological malignancy from 18 oncology units in the UK were included. Four randomisation options were available: Hickman versus PICCs versus PORTs (2:2:1), PICCs versus Hickman (1:1), PORTs versus Hickman (1:1), and PORTs versus PICCs (1:1). Randomisation was done using a minimisation algorithm stratifying by centre, body-mass index, type of cancer, device history, and treatment mode. The primary outcome was complication rate (composite of infection, venous thrombosis, pulmonary embolus, inability to aspirate blood, mechanical failure, and other) assessed until device removal, withdrawal from study, or 1-year follow-up. This study is registered with ISRCTN, ISRCTN44504648.

Findings Between Nov 8, 2013, and Feb 28, 2018, of 2714 individuals screened for eligibility, 1061 were enrolled and randomly assigned, contributing to the relevant comparison or comparisons (PICC *vs* Hickman n=424, 212 [50%] on PICC and 212 [50%] on Hickman; PORT *vs* Hickman n=556, 253 [46%] on PORT and 303 [54%] on Hickman; and PORT *vs* PICC n=346, 147 [42%] on PORT and 199 [58%] on PICC). Similar complication rates were observed for PICCs (110 [52%] of 212) and Hickman (103 [49%] of 212). Although the observed difference was less than 10%, non-inferiority of PICCs was not confirmed (odds ratio [OR] 1·15 [95% CI 0·78–1·71]) potentially due to inadequate power. PORTs were superior to Hickman with a complication rate of 29% (73 of 253) versus 43% (131 of 303; OR 0·54 [95% CI 0·37–0·77]). PORTs were superior to PICCs with a complication rate of 32% (47 of 147) versus 47% (93 of 199; OR 0·52 [0·33–0·83]).

Interpretation For most patients receiving SACT, PORTs are more effective and safer than both Hickman and PICCs. Our findings suggest that most patients receiving SACT for solid tumours should receive a PORT within the UK National Health Service.

Studio randomizzato
PICC vs. port vs. CICC tunnellizzati

Complicanze PICC > port
Complicanze CICC tunn. > port

*Nessuna informazione sulla corretta indicazione clinica a PICC o port o CICC tunn.; apparentemente, tutti pazienti con indicazione netta al port

*Mancanza di informazioni sulla tecnica di inserzione per tutti i gruppi

*Utilizzo di dispositivi antiquati (CICC in silicone) o con caratteristiche non dichiarate (PICC e port)

*Mancata distinzione tra complicanze minori o maggiori

2021

Peripherally Inserted Central Venous Catheters (PICC) versus totally implantable venous access device (PORT) for chemotherapy administration: a meta-analysis on gynecological cancer patients

Vito Andrea Capozzi[1], Luciano Monfardini[1], Giulio Sozzi[2], Giulia Armano[1], Diana Butera[1], Elisa Scarpelli[1], Giuseppe Barresi[1], Alessandro Benegiamo[1], Roberto Berretta[1].

[1]Department of medicine and surgery, University of Parma, Parma, Italy; [2]Department of gynecologic oncology, University of Palermo, Palermo, Italy.

2021

Abstract.

Background and aim: Ninety-four thousand gynecological cancer diagnoses are performed each year in the United States. The majority of these tumors require systemic adjuvant therapy. Sustained venous access was overcome by indwelling long-term central venous catheter (CVC). The best choice of which CVC to use is often arbitrary or dependent on physician confidence. This meta-analysis aims to compare PORT and peripherally inserted central catheter (PICC) outcomes during adjuvant treatment for gynecological cancer.

Methods: Meta-analysis Of Observational Studies in Epidemiology (MOOSE) and the preferred reporting items for systematic reviews and meta-analyses statement (PRISMA)were used to conduct the meta-analysis.

Results: 1320 patients were included, 794 belonging to the PORT group and 526 to the PICC group. Total complication rates were fewer in the PORT group, $p = 0.05$. CVC malfunction was less frequent in the PORT group than in the PICC group, $p < 0.01$. Finally, thrombotic events were less expressed in the PORT group than in the PICC group, $p = 0.02$. No difference was found in operative complication, migration, malposition, extravasation, infection, and complication requiring catheter removal.

Conclusions: PORT had fewer thrombotic complications and fewer malfunction problems than PICC devices. Unless specific contraindications, PORTs can be preferred for systemic treatment in gynecological cancer patients. (www.actabiomedica.it)

Meta-analisi di studi di confronto PICC vs. port

Trombosi PICC > port
Malfunzionamenti PICC > port

- Problema di fondo di questa meta-analisi:

Effetto GIGO

(Garbage In, Garbage Out)

Clinical effect and safety of venous access ports and peripherally inserted central catheters in patients receiving tumor chemotherapy: a systematic review and meta-analysis

2021

Erling He, Kunni Ye, Huili Zheng

Department of Rehabilitation Medicine, Hainan Western Centra Hospital, Danzhou, China

Contributions: (I) Conception and design: H Zheng; (II) Administrative support: H Zheng; (III) Provision of study materials or patients: K Ye; (IV) Collection and assembly of data: E He; (V) Data analysis and interpretation: E He; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

Correspondence to: Huili Zheng. Department of Rehabilitation Medicine, Hainan Western Centra Hospital, Danzhou 571799, China. Email: 420598596@qq.com.

Background: To evaluate the effects and safety of peripherally inserted central catheters (PICCs) and venous access ports (PORTs) for cancer patients receiving chemotherapy.

Methods: We searched randomized controlled trials and retrospective cohort studies comparing PICCs to PORTs in cancer patients receiving chemotherapy. Data were extracted from relevant studies. We sought to evaluate procedure time, quality of life and thrombosis [risk ratio (RR) =4.37, 95% CI, 2.10, 9.07, P<0.0001, I^2=22%]. Sensitivity analysis and the funnel plot showed that our study was robust and exhibited low publication bias.

Results: Ten previous studies were incorporated into this study for a total sample size of 2,585 patients. There was no difference between the PICC and PORT groups in QOL (MD =−1.12, 95% CI, −6.14, 3.91, P=0.66, fixed effect model, I^2=32%). PORT required a longer procedure time than the PICC procedure (the overall MD was −5.55 with 95% CI, −6.96, −4.14, I^2=0%), and PICCs had more associated complications than PORTs including occlusion (MD =5.42, 95% CI, 2.13, 13.75, P=0.0004, I^2=40%) and thrombosis (risk ratio (RR) =4.37, 95% CI, 2.10, 9.07, P<0.0001, I^2=22%). Sensitivity analysis and the funnel plot showed that our study was robust and exhibited low publication bias.

Discussion: Our study suggested that PORTs had similar clinical effects to PICCs in cancer patients receiving chemotherapy. However, PORTs were associated with fewer complications than PICCs.

Meta-analisi di studi di confronto PICC vs. port

Trombosi PICC > port
Malfunzionamenti PICC > port

- Problema di fondo di questa meta-analisi:

Effetto GIGO

(Garbage In, Garbage Out)

RESEARCH ARTICLE

Applicability of TIVAP versus PICC in non-hematological malignancies patients: A meta-analysis and systematic review

Baiying Liu[1‡], Zhiwei Wu[1‡], Changwei Lin[1], Liang Li[1], Xuechun Kuang[2*]

1 Department of Gastrointestinal Surgery, The Third XiangYa Hospital of Central South University, Changsha, China, **2** Department of Geratic Surgery, Xiangya Hospital of Central South University, Changsha, Hunan, China

‡ These authors share first authorship on this work.
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2021

Meta-analisi di studi di confronto PICC vs. port

Complicanze PICC > port
Costo PICC (6 mesi) < port

- Problema di fondo di questa meta-analisi:

Effetto GIGO

(Garbage In, Garbage Out)

ORIGINAL ARTICLE

European Journal of Haematology | WILEY

Retrospective analysis of the safety of peripherally inserted catheters versus implanted port catheters during first-line treatment for patients with diffuse large B-cell lymphoma

Juliette Pénichoux[1] | Julien Rio[2] | Leila Kammoun[3] | Thomas Vermeulin[2] | Louis-Ferdinand Pepin[4] | Vincent Camus[1] | Sydney Dubois[1] | Florian Bouclet[1] | Mustafa Alani[1] | Nathalie Contentin[1] | Stéphane Leprêtre[1] | Aspasia Stamatoullas[1] | Hélène Lanic[1] | Emilie Lemasle[1] | Anne-Lise Ménard[1] | Pascal Lenain[1] | Marie Gilles-Baray[5] | Dragos Georgescu[5] | Florian Clatot[6] | Hervé Tilly[1] | Fabrice Jardin[1]

2022

Studio retrospettivo (solo linfomi)
213 PICC vs. 266 port

Trombosi PICC < port
Infezioni PICC > port

*Tutti pazienti con chiara e netta indicazione al posizionamento di un port

*procedure antiquate (o non dichiarate) sia per i PICC che per i port

- tip location tramite lastra del torace
- nessuna attenzione al calibro delle vene
- nessuna informazione sulla gestione

Cost-utility analysis of centrally inserted totally implanted access port (PORT) vs. peripherally inserted central catheter (PICC) in the oncology chemotherapy

Guoliang Shao[1†], Xiaoying Zhou[2†], Shaoya Zhang[2], Shuaijun Wu[2], Yichen Dong[3] and Zuojun Dong[2*]

[1]Department of interventional oncology, The Cancer Hospital of the University of Chinese Academy of Sciences (Zhejiang Cancer Hospital), Institute of Basic Medicine and Cancer, Chinese Academy of Sciences, Hangzhou, China, [2]Institute of Pharmaceutical Preparations, Zhejiang University of Technology, Huzhou, China, [3]Faculty of Chinese Medicine, Macau University of Science and Technology, Macau, China

Studio prospettico
PICC vs. port

Costi PICC > port

*Nessuna informazione sulla indicazione clinica a PICC o port; apparentemente, tutti pazienti con chiara indicazione al port

*Completa mancanza di qualsiasi informazione clinica sulla inserzione, gestione, diagnosi di complicanze, etc.

2022

Original research article

Peripherally inserted central catheter versus totally implanted venous port for delivering medium- to long-term chemotherapy: A cost-effectiveness analysis based on propensity score matching

Kairong Wang[1], Yingfeng Zhou[1], Na Huang[1], Zhenqi Lu[2] and Xiaoju Zhang[2]

2022

Studio retrospettivo
PICC vs. port

Costi PICC < port (3-9 mesi)
Costi PICC > port (9-12 mesi)

*Nessuna informazione sulla indicazione clinica a PICC o port; apparentemente, tutti pazienti con chiara indicazione al port

*procedure antiquate (o non dichiarate) sia per i PICC che per i port

- eparinizzazione
- utilizzo incostante dell'ecografo
- fluoroscopia/lastra torace
- nessuna attenzione al calibro delle vene
- nessuna informazione sulla gestione

UN SOLO STUDIO DI CONFRONTO TRA PICC E PORT BRACHIALE

Current Oncology

2021

MDPI

Article

Comparison of the Quality of Life of Patients with Breast or Colon Cancer with an Arm Vein Port (TIVAD) Versus a Peripherally Inserted Central Catheter (PICC)

Brent Burbridge [1], Hyun Lim [2], Lynn Dwernychuk [3], Ha Le [4], Tehmina Asif [5], Amer Sami [3] and Shahid Ahmed [3,*]

Studio prospettico
(solo cancro colon-retto)
PICC vs. port brachiali

Complicanze PICC = arm port
QOL PICC < arm port

*Selezione del dispositivo basata sulla durata
(<6 mesi: PICC; >6 mesi arm port)

*arm port = inserito con tecnica antiquata (non si trattava di PICC-port)

E ALLORA?

PICC E PORT HANNO DIVERSE INDICAZIONI

- **PICC**
  - **Utilizzo sia intra che extra-ospedaliero**
  - **Utilizzo extra-ospedaliero: accesso venoso frequente (>1 accesso/settimana)**
- **Port (PICC-port, chest-port, port femorale)**
  - **Utilizzo esclusivamente extraospedaliero**
  - **Utilizzo extra-ospedaliero: accesso venoso infrequente (<1 accesso/settimana)**

PICC E PORT HANNO DIVERSE INDICAZIONI

- E' stato codificato da tempo, sulla base della esperienza, delle evidenze, e del buon senso

Gruppo Aperto Di Studio Sugli Accessi Venosi Centrali A Lungo Termine

[GAVeCeLT]

1999

Consensus Conference:

INDICAZIONI DEGLI ACCESSI VENOSI CENTRALI A LUNGO TERMINE

Istituto Europeo di Oncologia, Milano
2 giugno 1999

SIAARTI
PRO VITA CONTRA DOLOREM SEMPER

Buone pratiche cliniche SIAARTI

2018

TECHNICAL REPORT — INTERNATIONAL JOURNAL OF LABORATORY HEMATOLOGY

Guidelines on the insertion and management of central venous access devices in adults **2008**

L. BISHOP*, L. DOUGHERTY†, A. BODENHAM‡, J. MANSI*, P. CROWE§, C. KIBBLER¶, M. SHANNON**, J. TRELEAVEN†

Clinical Nutrition 28 (2009) 365–377

Contents lists available at ScienceDirect

Clinical Nutrition

journal homepage: http://www.elsevier.com/locate/clnu

ELSEVIER

ESPEN Guidelines on Parenteral Nutrition: Central Venous Catheters (access, care, diagnosis and therapy of complications)

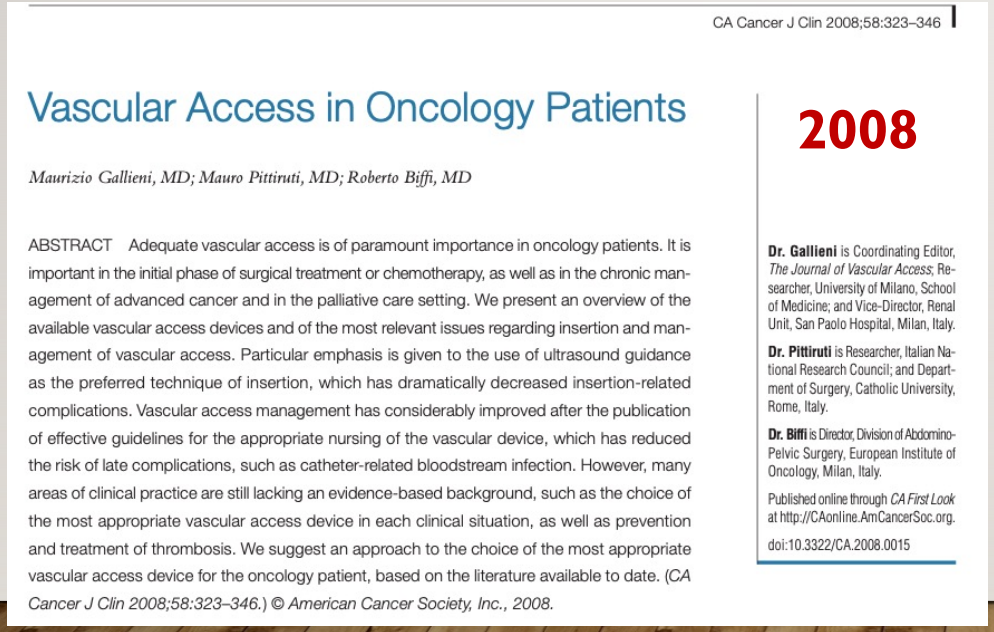
Mauro Pittiruti [a], Helen Hamilton [b], Roberto Biffi [c], John MacFie [d], Marek Pertkiewicz [e]

[a] Catholic University Hospital, Roma, Italy
[b] John Radcliffe Infirmary, Oxford, United Kingdom
[c] Division of Abdomino-Pelvic Surgery, European Institute of Oncology, Milano, Italy
[d] Scarborough Hospital, Scarborough, United Kingdom
[e] Medical University of Warsaw, Poland

2009

PICC E PORT HANNO DIVERSE INDICAZIONI

- E' stato codificato da tempo, sulla base della esperienza, delle evidenze, e del buon senso



CA Cancer J Clin 2008;58:323–346

Vascular Access in Oncology Patients

2008

Maurizio Gallieni, MD; Mauro Pittiruti, MD; Roberto Biffi, MD

ABSTRACT Adequate vascular access is of paramount importance in oncology patients. It is important in the initial phase of surgical treatment or chemotherapy, as well as in the chronic management of advanced cancer and in the palliative care setting. We present an overview of the available vascular access devices and of the most relevant issues regarding insertion and management of vascular access. Particular emphasis is given to the use of ultrasound guidance as the preferred technique of insertion, which has dramatically decreased insertion-related complications. Vascular access management has considerably improved after the publication of effective guidelines for the appropriate nursing of the vascular device, which has reduced the risk of late complications, such as catheter-related bloodstream infection. However, many areas of clinical practice are still lacking an evidence-based background, such as the choice of the most appropriate vascular access device in each clinical situation, as well as prevention and treatment of thrombosis. We suggest an approach to the choice of the most appropriate vascular access device for the oncology patient, based on the literature available to date. (*CA Cancer J Clin 2008;58:323–346.*) © *American Cancer Society, Inc., 2008.*

Dr. Gallieni is Coordinating Editor, *The Journal of Vascular Access*; Researcher, University of Milano, School of Medicine; and Vice-Director, Renal Unit, San Paolo Hospital, Milan, Italy.

Dr. Pittiruti is Researcher, Italian National Research Council; and Department of Surgery, Catholic University, Rome, Italy.

Dr. Biffi is Director, Division of Abdomino-Pelvic Surgery, European Institute of Oncology, Milan, Italy.

Published online through *CA First Look* at http://CAonline.AmCancerSoc.org.

doi:10.3322/CA.2008.0015

JVA The Journal of Vascular Access

Editorial

Guidelines of the Italian Association of Pediatric Hematology and Oncology for the management of the central venous access devices in pediatric patients with onco-hematological disease

2020

Monica Cellini[1], Anna Bergadano[2], Alessandro Crocoli[3], Clara Badino[4], Francesca Carraro[2], Luca Sidro[5], Debora Botta[6], Alessia Pancaldi[7], Francesca Rossetti[8], Federica Pitta[9] and Simone Cesaro[10]

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1–15

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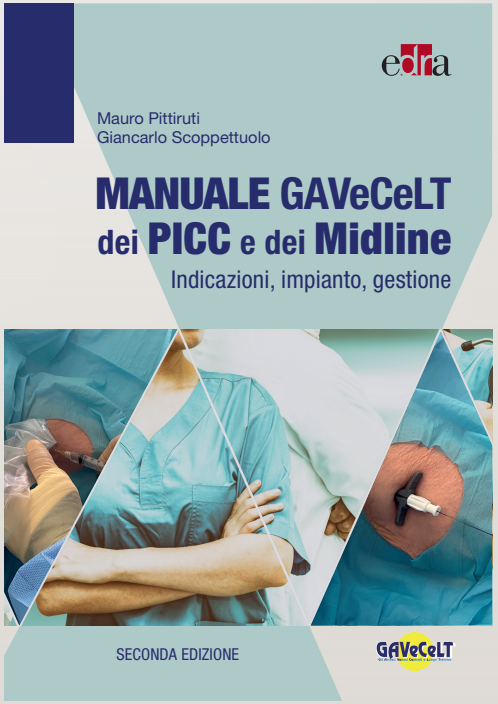
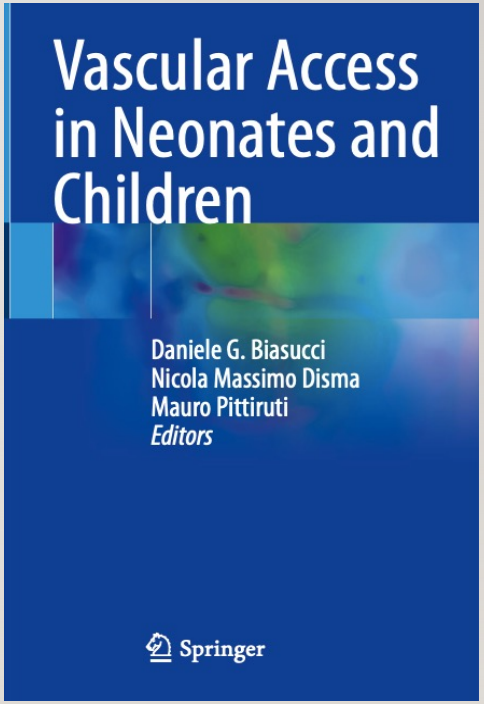
PICC E PORT HANNO DIVERSE INDICAZIONI

2021

2022



2022



2022

PROTOCOLLO DAV-EXPERT 2018

DISPONIBILE SU Google Play

Disponibile su App Store

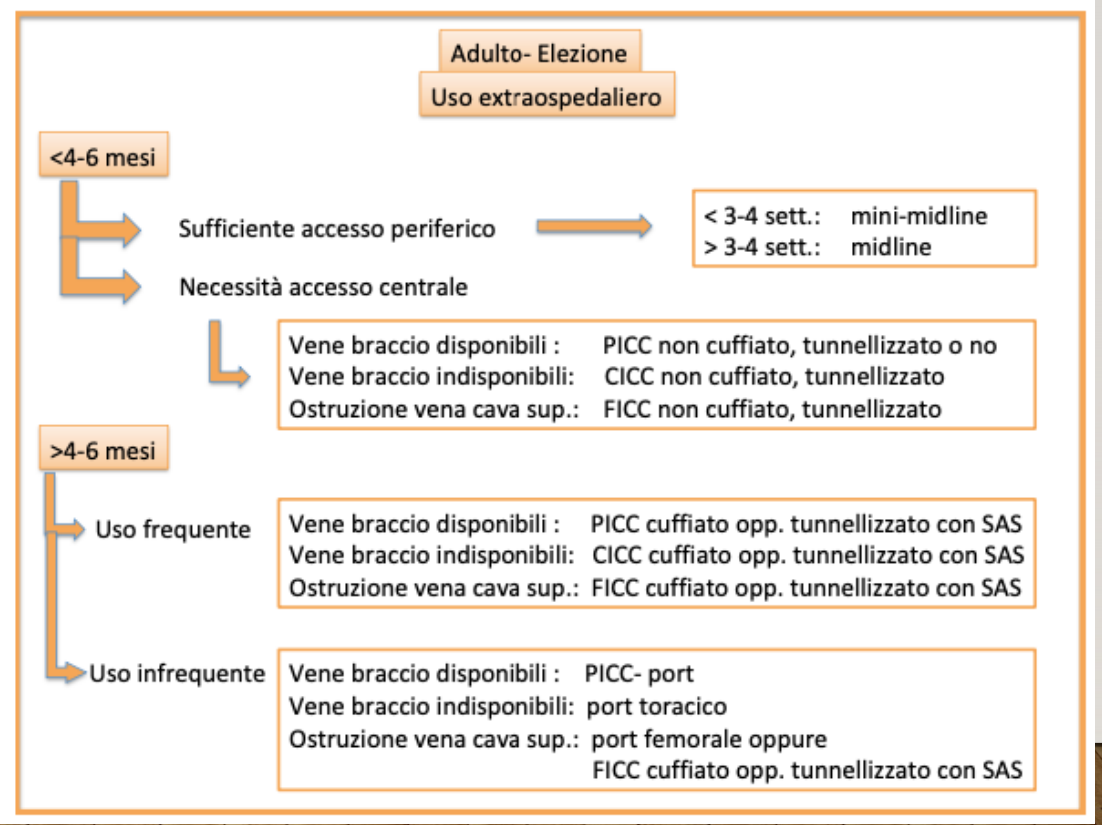
PROTOCOLLO DAV-EXPERT 2018

DAV EXPERT

GAVeCeLT

DISPONIBILE SU Google Play

Disponibile su App Store



QUINDI: IL RUOLO DEI PICC IN ONCOLOGIA

- Nel decorso perioperatorio del paziente oncologico chirurgico
- Nel paziente oncologico che richiede nutrizione parenterale (in ospedale o a domicilio)
- Nel paziente oncologico in cure palliative (anche in assenza di NP, ma con necessità di idratazione o terapia antalgica o altre terapie di supporto)
- Nel paziente oncologico in trattamento chemioterapico attivo con necessità di pochi cicli di terapia (< tre mesi)

IL PICC E' L'ACCESSO VENOSO CENTRALE DA PREFERIRE COME PRIMA OPZIONE

IN CASO DI CONTROINDICAZIONE AL PICC SI UTILIZZANO CICC (PREFERIBILMENTE TUNNELLIZZATI) OPPURE FICC (PREFERIBILMENTE CON *EXIT SITE* A META' COSCIA)

QUINDI: IL RUOLO DEI PORT IN ONCOLOGIA

- Nel paziente oncologico in trattamento chemioterapico attivo con necessità di terapia per periodi prolungati (> tre mesi), con accesso infrequente, e senza necessità di NP o altre terapie endovenose continuative

IL PORT DA PREFERIRE, IN TERMINI DI MINOR COSTO DI IMPIANTO E DI MINORE INVASIVITA' E' IL PICC PORT.

IN CASO DI CONTROINDICAZIONI AL PICC-PORT, CONSIDERARE ALTRE OPZIONI:

- **CHEST-PORT (preferibilmente, puntura della vena ascellare sottoclaveare)**
- **PORT 'CHEST-TO-ARM' (puntura centrale + reservoir al braccio)**
- **FICC PORT (preferibilmente, puntura della vena femorale superficiale)**

ECCEZIONI…..

- **In alcune situazioni di chiara indicazione al PICC (esempio per cure palliative), un PICC-port già in sede può essere utilizzato a tale scopo**
  - Purché il paziente non abbia più indicazioni alla chemioterapia
  - Purché il gestore/caregiver sia competente nell'utilizzo di un sistema impiantabile

- **In alcune situazioni di chiara indicazione al PICC-port (esempio per chemioterapia ogni 20 gg per periodo ancora indefinito), si può ricorrere ad un PICC in caso di grave coagulopatia che controindichi il posizionamento di un sistema totalmente impiantabile**
  - Vedi Consensus GAVeCeLT 2022

Review

JVA The Journal of Vascular Access

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1–12
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Management of antithrombotic treatment and bleeding disorders in patients requiring venous access devices: A systematic review and a GAVeCeLT consensus statement

2022

Maria Giuseppina Annetta[1], Sergio Bertoglio[2], Roberto Biffi[3], Fabrizio Brescia[4], Igor Giarretta[5], Antonio La Greca[1], Nicola Panocchia[6], Giovanna Passaro[7], Francesco Perna[8], Fulvio Pinelli[9], Mauro Pittiruti[1], Domenico Prisco[10], Tommaso Sanna[8] and Giancarlo Scoppettuolo[1]

	Type of venous access procedure		
	Minimally invasive (*all peripheral VADs, nontunneled PICCs, nontunneled FICCs at mid-thigh*)	**Moderately invasive** (*nontunneled CICCs, nontunneled FICCs at the groin, tunneled PICCs, nontunneled dialysis catheters*)	**Highly invasive** (*tunneled CICCs, tunneled FICCs, tunneled-cuffed dialysis catheters, ports and PICC-ports*)
Bleeding disorder			
PT/INR > 1.5 and/or aPTT ratio > 1.3	No contraindication	Relative contraindication (see text)	Absolute contraindication
Platelet $<50 \times 10^9$/L	No contraindication	Relative contraindication	Absolute contraindication (see text)
Antithrombotic treatment			
VKA	Do not withhold	Aim for PT/INR < 3 (see text)	Maintain PT/INR in the low therapeutic range (see text)

Review

JVA The Journal of Vascular Access

Management of antithrombotic treatment and bleeding disorders in patients requiring venous access devices: A systematic review and a GAVeCeLT consensus statement

The Journal of Vascular Access
1–12

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2022

Maria Giuseppina Annetta[1], Sergio Bertoglio[2], Roberto Biffi[3], Fabrizio Brescia[4], Igor Giarretta[5], Antonio La Greca[1], Nicola Panocchia[6], Giovanna Passaro[7], Francesco Perna[8], Fulvio Pinelli[9], Mauro Pittiruti[1], Domenico Prisco[10], Tommaso Sanna[8] and Giancarlo Scoppettuolo[1]

	Type of venous access procedure		
	Minimally invasive (*all peripheral VADs, nontunneled PICCs, nontunneled FICCs at mid-thigh*)	**Moderately invasive** (*nontunneled CICCs, nontunneled FICCs at the groin, tunneled PICCs, nontunneled dialysis catheters*)	**Highly invasive** (*tunneled CICCs, tunneled FICCs, tunneled-cuffed dialysis catheters, ports and PICC-ports*)
Bleeding disorder			
PT/INR > 1.5 and/or aPTT ratio > 1.3	No contraindication	Relative contraindication (see text)	Absolute contraindication
Platelet $<50 \times 10^9$/L	No contraindication	Relative contraindication	Absolute contraindication (see text)
Antithrombotic treatment			
VKA	Do not withhold	Aim for PT/INR < 3 (see text)	Maintain PT/INR in the low therapeutic range (see text)

CONCLUSIONI (1)

- **La scelta tra PICC e PICC-port nel paziente oncologico**
  - **Non si basa sul costo**
    - I costi dei materiali e i costi dell'impianto sono sovrapponibili
  - **Non si basa sulla incidenza di complicanze alla inserzione**
    - Si tratta di manovre prive di rischio di complicanze rilevanti
  - **Non si basa sul rischio di infezione**
    - Non differenze significative (se ben gestiti)
  - **Non si basa sul rischio di trombosi catetere correlata**
    - Non differenze significative (se ben impiantati)

CONCLUSIONI (2)

- **La scelta tra PICC e PICC-port nel paziente oncologico, si basa invece su altri fattori:**
  - **Utilizzo intra-ospedaliero vs. extra-ospedaliero (DH, ambulatorio, domicilio, hospice)**
  - **Durata prevista del trattamento endovenoso**
  - **Concomitante necessità di NP o di altre terapie di supporto**
  - **Frequenza di utilizzo dell'accesso (quotidiano – plurisettimanale – quindicinale – etc.)**
  - **Preferenza del paziente**
  - **Competenza/addestramento dello staff che si occuperà della gestione**
  - **Stato coagulativo**

CONCLUSIONI (3)

- Importanza cruciale hanno comunque:
  - **LA SCELTA DEL DISPOSITIVO**
    - PICC in poliuretano, power injectable (MAI VALVOLATI!)
    - PICC-port con reservoir 'very low profile' e catetere 5Fr in poliuretano
  - **LA TECNICA DI IMPIANTO**
    - Utilizzo della ecografia per la scelta della vena, per la venipuntura, per la tip navigation
    - Tip location mediante ECG intracavitario e/o ecocardioscopia (MAI FLUOROSCOPIA!)
  - **L'ADDESTRAMENTO DEL GESTORE/CAREGIVER**
    - Tecnica asettica
    - Lavaggio con fisiologica (MAI CON EPARINA!)

CONCLUSIONI (4)

RACCOMANDAZIONE FINALE

- Elaborare e adottare **procedure aziendali** che definiscano in modo corretto i criteri per la scelta del dispositivo, la tecnica di impianto e la tecnica di gestione, seguendo criteri di sicurezza e costo-efficacia

GRAZIE DELL'ATTENZIONE

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