



TROMBOEMBOLISMO VENOSO: ASPETTI CLINICI E
DIAGNOSTICI

INDICATIONS AND OUTCOMES OF OPTIONAL INFERIOR CAVA FILTERS IN CANCER-ASSOCIATED THROMBOSIS AND IN NON CANCER PATIENTS WITH VENOUS THROMBOEMBOLISM

B. Cosmi^{1,2}, A. Cannizzaro², M. Soldati², L. Borgese², S. Cavara^{1,2}, M. Sartori², L. Braccischi³,
M. Taninokuchi Tomassoni⁴, D. Imberti⁵, V.O. Herasimchyj⁵, C. Mosconi^{3,4}

¹Angiology and Blood Coagulation Unit, Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy; ²IRCCS Azienda Ospedaliero-Universitaria di Bologna, Bologna, Italy; ³Department of Medical and Surgical Sciences (DIMEC), University of Bologna, Bologna, Italy; ⁴Department of Radiology, IRCCS Azienda Ospedaliero Universitaria Di Bologna, Bologna, Italy; ⁵Department of Medicine and Surgery, University of Parma, Italy; ⁶Haemostasis and Thrombosis Center, Internal Medicine Department, Ospedale di Piacenza, Italy

Introduction. Inferior vena cava filters (IVCF) are an option in patients with acute venous thromboembolism (VTE) with a coexisting absolute contraindication to anticoagulation to reduce the risk of fatal pulmonary embolism. Cancer patients are at high risk of both VTE, bleeding and death and the benefits of IVCF insertion in cancer-associated thrombosis (CAT) are uncertain.

Objectives. to investigate the indications for optional IVCF, their retrieval rates and complications in patients with CAT compared to cancer-free patients with VTE.

Design. retrospective cohort study in two tertiary care hospitals.

Participants. consecutive patients diagnosed with symptomatic VTE and undergoing optional IVCF placement from 2018 and 2022 and a follow-up of two years.

Primary outcome measures. IVCF retrieval rates and complications, thromboembolic complications and short (within 30 days) and long term (24 months) all-cause mortality.

Results. 334 patients (171 women - 53%, median age 75.5 years) were included. IVCF was inserted pre-operatively in

156 patients (47%) of whom 107 (68%) had CAT. Non pre-operative IVCF was inserted in 178 patients of whom 74 (41%) had CAT, 136 (76%) had major bleeding and 41 (12.3%) were at high bleeding risk. IVCF was removed in 135 patients (40.4%), with a similar rate of filter thrombosis (13.5% vs. 10.4%; $p=0.73$) and removal (41% vs 46%; $p=0.9$) among cancer and cancer free patients. VTE recurrence or progression was similar between cancer and non cancer patients (13% vs 12%) over 24 months. Non pre-operative IVCF was associated with a higher mortality rate at 30 days after IVCF insertion both in CAT and cancer free patients. All cause mortality between 31 days and 24 months after filter insertion was higher in cancer than non cancer patients ($p=0.0001$).

Conclusions. Thrombotic complications after IVCF insertion were similar in CAT and non-cancer patients. Short term mortality was higher after non pre-operative than after pre-operative filter insertion in both CAT and cancer free patients. However, patients with CAT had a higher long term all-cause mortality, regardless of IVCF indication and removal.