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LETTER TO THE EDITOR

Real-life experience of secondary prophylaxis with DOACs in splanchnic venous thrombosis during COVID-19 pandemic

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Dear Editor,

splanchnic vein thrombosis (SVT) is a group of rare diseases which includes thrombosis of portal, mesenteric, and splenic veins and Budd-Chiari syndrome and whose management is still object of debate [1]. Using vitamin K antagonists (VKA) is the backbone of treatment even if they have shown important limitations, above all the need for frequent international normalized ratio (INR) monitoring [2]. The COVID-19 pandemic outbreak and the measures aimed at limiting inter-human travel and contacts adopted since March 2020 in Italy pushed us to change the secondary prophylaxis of some patients with previous SVT from VKA to direct oral anticoagulants (DOACs), requiring fewer or no adjustments. Before starting DOACs blood count and a complete screening of liver and renal function and coagulation tests were performed. Patients with severe renal failure (creatinine clearance < 30 mL/min), thrombocytopenia (platelets < 100.000/mmc), and/or abnormal coagulation tests (prothrombin time > 1.5 ratio, partial thromboplastin time > 1.5 ratio, and/or fibrinogen < 100 mg/dL) were not considered for DOACs. Patients with unstable INR (with a low time in therapeutic range, < 70%), requiring thus strict controls, except for subjects affected by antiphospholipid antibody syndrome, suspended VKA and started DOACs. The choice of the type of DOAC was based on the characteristics of patients. Forty-two patients were enrolled in this retrospective study; 29 treated with VKA and 13 with DOACs. No difference was detected between VKA and DOAC groups for median age at diagnosis, sex, thrombosis site, presence of cavernomatosis, or esophageal varices, whereas a close to significance difference was detected for risk factors of thrombosis ($p = 0.05$).

In particular, 3 patients presented off-treatment JAK2 + myeloproliferative neoplasms [2 polycythemia vera (PV), 1 essential thrombocythemia (ET)], 1 patient JAK2 + PV and 1 patient JAK2 + ET treated with 5-hydroxyurea, and 1 patient CALR + idiopathic myelofibrosis treated with ruxolitinib.

Four bleeding events occurred, all among patients in VKA group: 1 major bleeding (cerebral hemorrhage, nonfatal, in a patient without known risk factors for bleeding) and 3 minor bleedings (rectorrhagia, in a patient with intestinal bowel disease, and 2 epistaxis, in a patient with cirrhosis and in a patient without known risk factors). No statistically significant differences emerged in bleeding-free survival ($p = 0.1$, see Fig. 1). Two episodes of thrombosis occurred, both in the VKA group. The first patient, a 50-year-old female with JAK2 + myeloproliferative neoplasm, cavernomatosis, and esophageal varices, manifested lower limb venous thrombosis 12 months after the start of secondary prevention. The second patient, a 38-year-old female without known risk factors and with no evidence of cavernomatosis and esophageal varices, presented a recurrence of portal vein thrombosis 2 years and 5 months after the resolution of the previous one. In literature, several retrospective reports stated the feasibility of DOAC treatment in SVT [3, 4], but only one report so far, by Serrao et al. [5], in a cohort of 70 patients,

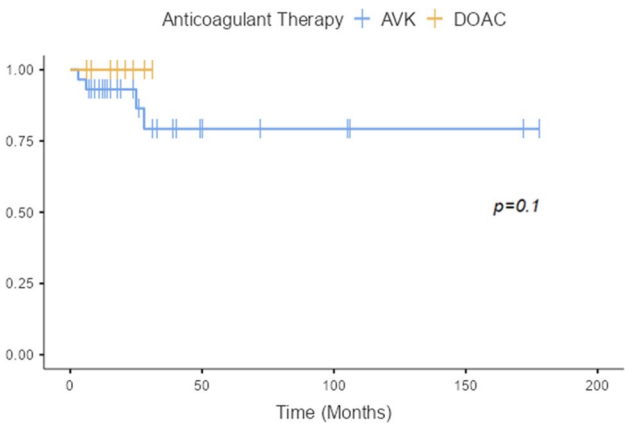

Fig. 1 Bleeding free survival

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described a safety and efficacy profile not inferior to VKA in long-term prophylaxis, obtaining results similar to ours.

Although our research disclosed limitations, mainly the monocentric, non-randomized, and retrospective nature of the study and the small sample size, considering the poor background in this field, we believe that our real-life experience can add valuable information on the safety of DOACs for secondary prophylaxis of SVT.

Author contribution All authors contributed equally to the manuscript and read and approved the final version of the manuscript.

Data availability The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical standard The research was conducted following Helsinki declaration principles and was approved by the local ethical committee.

Conflict of interest The authors declare no competing interests.

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