3y, p=0.002) and LT (12.7% *vs* 0 at 3y, p=0.03) were significantly higher. Overall survival was also significantly shorter for HMR pts (log-rank p=0.01) (Figure 1). In int-1 pts, presence of HMR mutations at RUX start is associated with lower responses, increased risk of LT and worse survival. HMR evaluation is crucial for personalized management of these pts.

## P38

## MYELOPROLIFERATIVE NEOPLASMS AND SPLANCHNIC VEIN THROMBOSIS: CLINICAL AND MOLECULAR FEATURES. A SINGLE-CENTER COHORT STUDY

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Venous thromboses account for approximately 30-40% of vascular complications in MPN, also involving the splanchnic circulation (SVT) with a prevalence of 1-23%. Here, we reported a consecutive single-center series of 54 MPN patients (pts), who developed an SVT at diagnosis or during follow-up between 1979 and 2020.

**Table 1. Characteristics of the patients.**

| | Patients n. 54 |
|---|---|
| Male/female | 24/30 |
| Age at MPN diagnosis (years), median (range) | 47 (18-78) |
| MPN subtype, n (%) | |
| - PV | 7 (13) |
| - ET | 9 (16.7) |
| - pre-PMF | 15 (27.7) |
| - overt PMF | 4 (7.4) |
| - MPN-U | 14 (25.9) |
| - PPV-MF | 2 (3.7) |
| - PET-MF | 3 (5.6) |
| Molecular status, n (%) | |
| - *JAK2* mutated | 45 (83.3) |
| - *JAK2* allele burden (%), median (range) | 27.3 (3.8-97) |
| - *JAK2* allele burden ≥50%, n (%) | 12 (22.2) |
| - *CALR* mutated | 3 (5.6) |
| - *MPL* mutated | 4 (7.4) |
| - triple-negative | 2 (3.7) |
| NGS, n (%) | |
| Wild-type | 7 (41.2) |
| HMR | 3 (17.6) |
| *DNMT3A* | 4 (23.5) |
| *TET2* | 6 (35.3) |
| *TP53* | 1 (5.9) |
| Others | 2 (11.8) |
| Cytogenetic abnormalities, n (%) | 4 (7.4) |
| Thrombophilia abnormalities, n (%) | 18 (33.3) |
| Follow-up from MPN diagnosis (years), median (range) | 8.3 (0.4-41.1) |
| Death, n (%) | 9 (16.7) |
| - AML evolution, n (%) | 5 (9.3) |
| - Hemorrhagic complications, n (%) | 3 (5.6) |
| - Infections, n (%) | 1 (1.8) |
| Type of SVT, n (%) | |
| - PVT | 18 (33.3) |
| - portal and splenic vein thrombosis | 11 (20.4) |
| - portal and mesenteric vein thrombosis | 5 (9.3) |
| - portal, splenic, and mesenteric vein thrombosis | 8 (14.8) |
| - splenic vein thrombosis | 4 (7.4) |
| - mesenteric vein thrombosis | 1 (1.8) |
| - BCS | 7 (13) |
| Age at SVT diagnosis (years), median (range) | 46 (20-78) |
| Follow-up from SVT diagnosis (years), median (range) | 7.0 (0.6-42) |
| Recurrence of SVT, n (%) | 10 (18.5) |
| Esophageal varices, n (%) | 25 (46.3) |
| Bleeding from varices, n (%) | 9 (16.7) |
| Other thrombotic complications after SVT, n (%) | 11 (20.4) |
| - arterial thrombosis | 7 (13) |
| - AMI | 4 (7.4) |
| - ischemic stroke | 2 (3.7) |
| - others | 1 (1.8) |
| - venous thrombosis | 4 (7.4) |
| - CVT | 2 (3.7) |
| - PE | 1 (1.8) |
| - others | 1 (1.8) |
| Bleeding events (excluding variceal ones), n (%) | 6 (11.1) |

*Abbreviations: MPN, myeloproliferative neoplasm; PV, polycythemia vera; ET, essential thrombocythemia; PMF, primary myelofibrosis; MPN-U, myeloproliferative neoplasm, unclassifiable; PPV-MF, post-PV myelofibrosis; PET-MF, post-ET myelofibrosis; HMR, high molecular risk; AML, acute myeloid leukemia; SVT, splanchnic vein thrombosis; PVT, portal vein thrombosis; BCS, Budd-Chiari syndrome; AMI, acute myocardial infarction; CVT, cerebral vein thrombosis; PE, pulmonary embolism.*

We identified 13% of PV, 16.7% of ET, 44.4% of MF, and 25.9% of MPN-U. Most of the cases (83.3%) bear a JAK2V617F mutation, whereas seven (13%) pts were characterized by other molecular markers, *i.e.*, MPL in four and CALR mutations in three cases. The remaining two (3.7%) pts were defined as triple-negative. NGS was performed in 17 (31.5%) cases: the most frequent mutations were found in TET2 (35.3%) and DNMT3A (23.5%) genes, whereas seven (41.2%) pts had no additional mutation. At the time of SVT onset, active antiplatelet therapy was documented in 18.5% of the cases. Among the 16 (29.6%) pts who suffered from SVT during follow-up, cytoreduction was already on-going in 56.3% of the cases, whereas it was then started in all but 16 pts, mainly due to a normal blood cells count. Anticoagulants were started in 43 (79.6%) pts, including ten (18.5%) cases treated with DOACs. After a median follow-up from MPN diagnosis of 8.3 years, nine (16.7%) deaths were recorded: it was due to leukemic transformation in five pts, hemorrhages in three and infections in the remaining patient. 38.9% of the pts suffered from recurrent vascular events, either involving the arterial (13%) or the venous district (25.9%), with 10 (18.5%) pts experiencing a recurrent SVT. In the present study MPN-U seems to represent a distinct clinical entity when compared to other MPN subtypes, as SVT was the initial manifestation in all these cases. Interestingly, during follow-up none of these pts developed clinical features which enabled physicians to re-classify them among one of the classical MPN. Being aware of its limitations, our study confirm that SVT associated with MPN-U represents a more indolent disease as compared with full-diagnosed MPN. Notably, all leukemic evolutions were reported among MF pts after a median follow-up of 15.6 years. Furthermore, our preliminary data support the use of NGS analysis in MPN-related SVT management as it can provide useful diagnostic and prognostic information. However, more than one third of our pts developed recurrent vascular events, confirming the limited efficacy of conventional therapeutic approaches. Updated results will be presented.

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## PNH CLONES PREVALENCE STUDY IN PH-NEGATIVE MYELOPROLIFERATIVE DISORDERS

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*Background:* Myeloproliferative neoplasms (MPN) are clonal diseases that confer an increased risk of thrombotic events. Paroxysmal nocturnal hemoglobinuria (PNH) is a rare clonal disease associated with an increased thrombotic risk. The prevalence of PNH clones is little investigated in MPN patients. Early identification of PNH clones may play a role in the etiology of thrombotic event and may provide insights on the pathogenesis and new therapeutic approach.

*Objective:* The aim of this multicentric study, started in 2017, was to evaluate the prevalence of PNH clones (GPI lacking) in MPN PH negative patients with or without JAK-2, MPL or CARL mutations with hemolytic signs.

*Methods:* All the participating centers performed the diagnostic test by using a single lyophilized template for granulocytes and monocytes consisting of FLAER-Alexafluor488/CD157-PE/CD64-PC7/CD15-PC5/CD45-PB and a single lyophilized template for erythrocytes consisting of CD235a-FITC/CD59-PE/CD45-APC. Specific calibration beads were provided to standardize the method.

*Results:* Ninenty-three patients were included in the study, fourty-seven males and fourthy-six females. Median age was 69 years. Anemia, LDH elevation, asthenia and history of thrombosis were considered as major clinical signs and symptoms that may suggest the presence of PNH clone. The prevalence of PNH positive clones was 3.23% (three patients). All three patients had splenomegaly at the time of study enrollment; none of them had thrombosis at the time of PNH suspicion. One