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## 634.MYELOPROLIFERATIVE SYNDROMES: CLINICAL AND EPIDEMIOLOGICAL

### Atrial Fibrillation in Patients with Myelofibrosis

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**Background:**
Atrial fibrillation (AF) is the most common arrythmia (1-2% of the general population) and is associated with high risk of arterial thrombotic events. AF is not well characterized in the context of myeloproliferative neoplasms (MPN). Recent studies imply that thrombotic risk stratification among MPN AF patients may be suboptimal using the standard CHA2DS2VASC score, and true predictor of thrombotic risk may be presence of myelofibrosis instead. Clinical context in which AF occurs in myelofibrosis patients had not been investigated so far, but such analysis is needed to better understand why is the presence of myelofibrosis in particular the main predictor of thrombotic events among AF MPN patients. We aimed to evaluate prevalence and clinical associations of AF among patients with myelofibrosis.

**Methods:**
We retrospectively investigated a cohort of 154 patients with overt myelofibrosis treated in 6 Croatian hematology centers in period 2004-2022. Diagnoses were reassessed according to the 2016 WHO criteria for primary myelofibrosis (PMF) and the 2008 IWGMRT criteria for secondary myelofibrosis (SMF). Presence of AF documented in medical records and clinical correlations of AF status with main disease related characteristics were analyzed.

**Results:**
Among a total of 154 patients, 86 had PMF, 35 had post polycythemia vera (PV) and 33 had post essential thrombocythemia (ET) SMF. Median age was 69 years. There were 91 (59%) males, 111 (75%) patients were JAK2, 9 (7.3%) CALR and 4 (3.3%) MPL mutated.

AF was present in 15 (9.7%) patients with myelofibrosis which was significantly more frequent than anticipated in the general population of similar age ($P<0.001$). There were no significant associations of AF with neither etiology of myelofibrosis, age, sex, mutational status, degree of bone marrow fibrosis, spleen size, history of thrombosis, estimated glomerular filtration rate, hemoglobin, WBC nor platelet count ($P>0.05$ for all analyses). DIPSS score did not differ between AF and non-AF PMF patients, but MYSEC-PM score was significantly higher among AF SMF patients ($P=0.029$). AF in comparison to non-AF patients more frequently had constitutional symptoms (87% vs 54%, $P=0.015$), positive bleeding history (27% vs 6%, $P=0.004$), heart failure (47% vs 12%, $P<0.001$), obesity (21% vs 4%, $P=0.010$), lower MCHC (313 vs 318 g/L, $P=0.031$), higher urea (median 8.5 vs 6.8 g/L, $P=0.009$) and higher CHA2DS2VASC score (4 vs 3 points, $P=0.003$). AF more frequently received anticoagulants and diuretics than non-AF patients ($P<0.05$), whereas similar rates of cytoreductive therapy and aspirin were utilized.

Despite all myelofibrosis patients with AF patients having CHA2DS2VASC score ≥2 points, only 60% of them received anticoagulant therapy, 27% received aspirin and 73% received cytoreductive therapy. No significant difference in survival and

thrombosis was observed between AF and non-AF myelofibrosis patients (P>0.05 for all analyses) although study may be underpowered for these analyses.

**Summary/Conclusion:**

AF is frequent in patients with myelofibrosis and might be associated with higher frequency of constitutional symptoms, particular cardiovascular comorbidities and consistently high predetermined CHAD2DS2VASC risk. Nevertheless, unexpectedly low proportion of patients receives anticoagulant therapy, possibly due to anticipated risk of bleeding and cytopenias common in myelofibrosis patients. It remains a question whether suboptimal treatment or presence myelofibrosis itself might be a risk factor for unfavorable outcomes among AF MPN patients.

**Disclosures Krecak:** *Janssen:* Honoraria.

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