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ORAL ABSTRACTS

311.DISORDERS OF PLATELET NUMBER OR FUNCTION: CLINICAL AND EPIDEMIOLOGICAL

The Risk of Infections in Adults with Primary Immune Thrombocytopenia (ITP)

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Background
Immunosuppressive treatment has remained a cornerstone in the management of primary ITP (pITP) for decades. Infections are known complications to immunosuppressive therapy, but the actual risk is not well studied in ITP. We have previously shown that the overall mortality risk is increased in pITP patients and specifically that death due to infections is 1.5-2.4-fold elevated compared to the general population. In this study,we aimed at quantifying the risk of infection, including infection subtypes, in adults with pITP and matched comparators from the general population.
Study design
We constructed a nationwide cohort of patients ≥18 years with pITP using the Danish Civil Registration System (CRS) and the Danish National Patient Registry (DNPR). We identified ITP patients using the specific ICD-10 diagnosis registration and age-sex matched these with up to 40 comparators without ITP from the general population. We excluded prevalent ITP, non-ITP thrombocytopenic disorders, and secondary ITP defined as one or more associated diagnosis registered any time before or up to 30 days after diagnosis of ITP. The latter included ITP in combination with hematological malignancies, autoimmune disorders etc.
Hospital registered infections were identified through the DNPR, prior to 1995 using ICD-8 and ICD-10 diagnoses codes thereafter. Diagnosis codes were grouped, defining the following seven types or sites of infection: respiratory, urogenital, bloodstream, gastrointestinal, tissue and musculoskeletal, central nervous system (CNS), candidiasis and other fungal infections.
Date of first registration of pITP marked start of follow-up and comparators were assigned the same start date. Patients and comparators were followed to the first of following events in each of the seven subgroups: infection, emigration, death, or end of study period (31 st of December 2016). Infections occurring before start date were categorized as prevalent.
We computed 1-year, 5-year, and 10-year as well as overall cumulative incidences. In addition, relative increases in risk were estimated using Cox-specific hazard (csHR) and Fine-Gray subhazard ratios (subHR) with and without equivalent time-splits, and death as competing event.
Results
We identified 4,030 pITP patients and 161,020 matched comparators. In the combined group of all types of infections total follow-up time was 22,075 person-years (average 5.5 years) for pITP patients and 1,118,304 person-years (average 6.9 years) for comparators. Median age was 60 years [IQR 40-74]. Previous hospital registered infections had occurred in 37% of patients and 27% of comparators. Comorbidity was more frequent among pITP patients than among comparators.
The 1-year cumulative incidences in all subgroups of infections were higher in patients compared with the general population (Figure 1). For blood stream infections the 1-year cumulative incidence reached 3.36% [95% CI 2.83-3.96] in patients and 0.47% [95% CI 0.44-0.51] in comparators. The cumulative incidences for all subtypes of infections remained higher for patients than comparators throughout the study period, but differences decreased over time.
During the first year adjusted csHR for infections overall was 2.82 [95%CI 2.61-3.05] and the adjusted subHR was 2.20 [95% CI 2.01-2.41]. Blood stream infections had the relative highest risk with an adjusted csHR of 6.58 [95% CI 5.46-7.92] and adjusted

subHR of 2.08 [95% CI 1.71-2.54] (Figure 2). Risks of the other types of infections were also increased during first year but diminished over time in general (Figure 2).

For the entire study period the overall adjusted csHR of all infections was 1.51 [95% CI 1.35-1.67] with a subHR of 1.34 [95% CI 1.20-1.49]. Blood stream infections continued having the highest risk in the period between 6 th-10 th year with a csHR of 1.40 [95% CI 1.03-1.91].

Conclusion

The risk of incident infection in patients with pITP is increased compared with the general population. This risk is especially elevated within the first year after diagnosis but remains higher than the general population also in subsequent years. The risk of blood stream infection is especially high within the first year after diagnosis, but remains higher even 20 years after diagnosis. These data may help clinicians to improve management of ITP and support shared decision making with patients.

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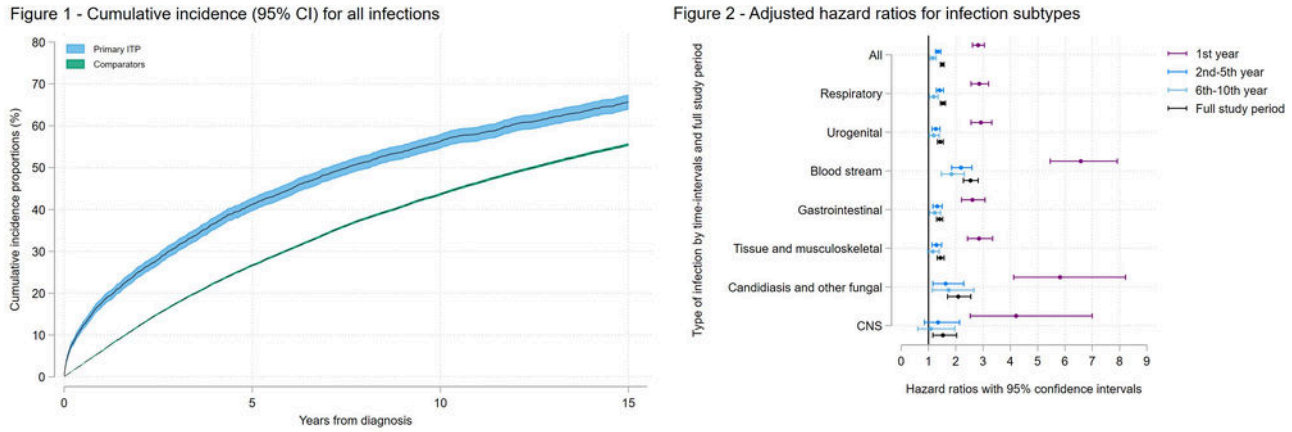

Figure 1

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