Epidemiology and treatment of immune thrombocytopenia: a pharmacoepidemiological approach
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INTRODUCTION

- Immune thrombocytopenia (ITP) is a rare disease due to an autoimmune response directed against platelets and megakaryocytes, leading to bleeding.
- Its epidemiology is not well known.
- First-line treatment is based on corticosteroids (CS).
- In adults, 70% of ITPs become persistent (≥3 months) or chronic (≥12 months). Then, several treatments are available: splenectomy, rituximab, thrombopoietin-receptor agonists (TPO-RAs)… Their exposure and their benefit-to-risk ratio have never been compared.

AIMS:
- Assessing the epidemiology of ITP at the nationwide scale
- Assessing the exposure and the benefit-to-risk ratio of ITP treatments

MAIN RESULTS

- **Epidemiology**
  - ITP incidence was 2.9/100,000 person-years with 2 peaks: children and >60 years. It was higher in males in these subgroups.
  - There were seasonal variations (peaks in winter) and a north-south gradient in mainland France.
  - 36% of pediatric ITPs became persistent or chronic, compared with 67% of adult ITPs.
  - Among adults, 18% of ITPs were secondary. Malignancies were the main cause (10.9%). Myelodysplastic syndromes were an emerging cause (2.3%).
  - Severe (GI or CNS) bleeding at ITP onset was rare (<1%) and the risk increased with age.

- **Exposure to non-corticosteroid treatments (NCTs) before the chronic phase**
  - Rituximab was the most used NCT at any time and as first-line NCT.
  - Splenectomy, TPO-RAs, repeated intravenous immunoglobulins, danazol and dapsone were used in >10% of the patients exposed to at least one NCT.
  - TPO-RAs and dapsone were more frequently in patients aged ≥65 years and splenectomy in those <65 years.
  - Age <65 years was the sole independent predictor of first-line splenectomy.

- **Exposure to vaccine in patients exposed to rituximab or splenectomized**
  - 32.4% of rituximab-treated patients (n=423) were vaccinated against pneumococcus and 12.8% had a recommended vaccination (>2 weeks before rituximab).
  - 70.2% of splenectomized patients (n=178) were vaccinated against pneumococcus and 60.1% had a recommended vaccination (>2 weeks before splenectomy).
  - Disease duration >3 months was the sole factor associated to recommended vaccination in both groups, stressing the need of an earlier vaccination of ITP patients.

CONCLUSION ET PERSPECTIVES

- This nationwide cohort of ITP patients is the wider ever built.
- Perspectives (end-2014 & 2015):
  - Validation of the identification algorithm through medical chart review (EVAL-ITIS project)
  - Assessing the infection risk function of CS in ITP (nested case-control study, manuscript in preparation)
  - Comparison of the 3 main second-line strategies (splenectomy, rituximab, TPO-RAs)
  - Benefit-to-risk ratio (mortality, CS withdrawal, hospitalization for bleeding, infection…)
  - Cost-utility ratio
- A complementary approach is CARMEN, a registry of ITP adults in Midi-Pyrénées assessing clinical data.