INTRODUCTION

- Giant cell arteritis (GCA), an antigen-driven Th1 and Th17 disease, is the most frequent primary vasculitis in patients aged over 50 years.
- Glucocorticosteroids (GCs) are the only drugs able to prevent ischemic complications due to the vasculitic process.
- Statins are widely prescribed to reduce the risk of cardiovascular ischemic events and may also exert immunomodulatory and anti-inflammatory effects, both in vitro and in vivo by promoting a shift from a Th1 to a Th2 immune response.
- Statin users may be less likely to develop GCA compared with non-users.
- Three retrospective studies found no effect of statins on GCA outcome or GCs requirement.

AIMS:
- Assessing the potential association between statin exposure and GCA occurrence
- Assessing the influence of statins on prednisone requirement after GCA diagnosis.
- Assessing the risk and predictors of cardiovascular-related hospitalizations in GCA
- Assessing the impact of statins on cardiovascular-related hospitalizations in GCA

METHODS

- Aim of the study:
  - Following all incident GCA patients treated in Midi-Pyrénées from 2005 until 2011.
- Data source:
  - The Système National d’Informations Inter-Régimes de l’Assurance Maladie (SNIIRAM) for the Midi-Pyrénées region.
  - It prospectively records data regarding demographics, long-term disabling diseases, out-hospital expenditures (including drug dispensing) and hospital stays for every patient.
- Patients’ selection:
  - Firstly, all incident GCA patients identified from 2005-2008 SNIIRAM data, then followed until 2011 were included.
  - GCA patients are identified with an algorithm combining diagnosis codes (long-term disabling diseases) and treatments (sustained GCs exposure).
  - Controls from the general population were selected for each incident GCA patient (6/1).

MAIN RESULTS

- Case-control analysis for statin exposure and GCA occurrence
  - The cohort included 103 patients (80 women, mean age 74.8 ± 9 years, mean follow-up 48.9 ± 14.8 months), compared to 606 controls.
  - Statin exposure (27.2% of GCA patients and 23.4% of controls) was not associated with GCA occurrence (adjusted OR 1.2, 95%CI 0.76 to1.96; P=0.41).
  - Statin exposure impact on GC Course
    - After diagnosis, exposure to statins up to 20 months was associated with maintenance on low prednisone doses (<5mg/d) (P=0.01).

- Predictors for cardiovascular hospitalizations in GCA
  - Cardiovascular hospitalization occurred more frequently in GCA patients (17.5% vs. 5.8%; adjusted HR 3.4, 1.95 to 6.13).
  - In GCA patients, cardiovascular comorbidities at diagnosis (HR 6.2, 2.0 to 19.2), age over 77 (HR 5.0, 1.40 to 17.53) were independent predictors for subsequent cardiovascular hospitalizations.
  - As well as the statins cumulated dose (HR=0.993, 0.986-0.999, P< 0.05)
  - None of the 25 GCA patients on platelet aggregation inhibitors had a cardiovascular hospitalization

CONCLUSION ET PERSPECTIVES

- An originally pharmacoepidemiological approach to investigate the association between the use of statin and giant cell arteritis outcome and cardiovascular hospitalizations occurrence.
- Perspectives:
  - Giant Cell Arteritis a medicoeconomical burden? A cost of illness study (manuscript in preparation)
  - Validation of the identification algorithm through medical chart review
  - Validation of our results at the nationwide scale (project in preparation)
  - A clinical trials: Multicenter, Prospective, Randomized, Controlled, Double-blind Trial on the Impact of statin on Subclinical Markers of Atherosclerosis and major cardiovascular events in GCA Patients (protocol in preparation)