Screening and Treating Hyperlipidemia in Patients on Tofacitinib, Tocilizumab, Sarilumab, and Baricitinib

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Screening and Treating Hyperlipidemia in Patients on Tofacitinib, Tocilizumab, Sarilumab, and Baricitinib

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Background
- Tofacitinib and baricitinib (JAK inhibitors) are agents used for rheumatoid arthritis (RA), seronegative spondyloarthropathy (SpA), and juvenile idiopathic arthritis (JIA).
- Tocilizumab and sarilumab are biologics (IL6 inhibitors) for the management of inflammatory arthritis and giant cell arteritis.
- These aforementioned drugs elevate total cholesterol and LDL levels.
- Primary aim is to assess compliance for screening of hyperlipidemia in patients receiving tocilizumab, sarilumab, baricitinib, and tocilizumab.
- Secondary aim is to determine the frequency of patients with newly elevated lipids on these biologic agents in a private practice setting, and ensuring our patients are appropriately managed with statins as indicated by ASCVD guidelines.

Methods
- Data reviewed on 146 patients within LVHN, from December 2018 to April 2019.
- Subjects were retrieved from Epic by searching for orders of the drugs of interest.
- Manual Chart Review was utilized to determine age, gender, ethnicity, pathology, medication, vital signs, date of drug initiation, previous statin, baseline lipid panel, frequency of lipid screenings, and statin whether indicated.

Results
- Table 1 shows demographic and clinical variables of the reviewed charts.
- Frequency of medications used: tofacitinib (64%), tocilizumab (29%), sarilumab (9%), and baricitinib (6%).
- Prior to the intervention, 29% of patients were on a statin and 28% had indications for a statin yet were not prescribed one.
- Additionally, only 17% of patients had proper baseline lipid screening 4–8 weeks after starting the studied drug.
- Only 12% of patients had lipid screenings every 6 months after initiation of the biologic agent.
- Mean age: 56 years.
- Gender: Female 77.40% (113)
- Causation: 78.76% (115)
- Hispanic 1.36% (2)
- Multi-racial 6.84% (10)
- African American 6.84% (10)
- Mean age: 56 years
- Average duration on biologic agent of interest: 760.5 days

Conclusion
- According to ACR guidelines, laboratory monitoring for patients on JAK and IL6 inhibition is recommended due to treatment-related changes in lipids, coagulation, and liver specific enzymes (ARP Practice Committee, 2017).
- Additionally, British Society for Rheumatology (BSR) advocates for baseline lipid screenings, and re-screening every 3 months (Malviya, 2014).
- After analyzing patients in LVHN, there is room for improvement. Twenty-eight percent of patients in the project have an indication for statin therapy, and are not being treated. Eighty-five percent of patients lacked baseline lipid screening 4–8 weeks after starting JAK and IL6 inhibition.
- A planned intervention educating rheumatology and internal medicine providers on the need for improved adherence to the above guidelines will follow this initial data assessment.

Patient Population
- Age > 19 years old.
- Must have an indication of RA, SpA, JIA, or GCA.
- Must have been treated with Tocilizumab, Tofacitinib, Sarilumab, or Baricitinib.
- Must be a patient in Lehigh Valley Health Network (LVHN).

Hypothesis
- We can increase percentage of patients screened and treated for hypercholesterolemia after an educational session with the department of rheumatology and internal medicine.

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<thead>
<tr>
<th>Frequency of Lipid Screening per On Statin</th>
<th>Start of Study (%)</th>
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</thead>
<tbody>
<tr>
<td>On Statin (start of study)</td>
<td>28.96%</td>
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<tr>
<td>Frequency of Lipid Screening per</td>
<td>35.86</td>
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<tr>
<th>TABLE 1</th>
<th>DISEASE PROCESS</th>
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