Statin Use and Hospital-onset Clostridium difficile Infection; A Case Control Study.
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BACKGROUND
Clostridium difficile infection (CDI) is the most common hospital acquired infection, outnumbering the incidence for methicillin-resistant Staphylococcus aureus. Multiple patient and healthcare related factors increase the risk of acquiring CDI or unfavorable outcomes. Role of Statins have been reported as both protective and harmful. Increased used of Statins over time correlates with increasing incidence of CDI. In contrary to this, two observational studies reported reduced risk of CDI with prior Statin exposure and lower recurrence of CDI in patients on Statins.

OBJECTIVE
To determine association between Statin use and risk of hospital-onset CDI.

METHODS

Study design and settings: Retrospective case-control study in a 310-bed community hospital.


Hospital-onset CDI: patients developing diarrheal illness beyond 48 hours of hospital admission and tested positive for C. difficile on stool assay (enzymeimmune assay for toxin A and B or polymerase chain reaction for toxin producing gene)

Controls: Two matched controls for each case were selected from the patients admitted to same hospital during the same time period. Controls were matched for age, gender, proton pump inhibitor use, length of hospital stay and Elixhauser co-morbidity index.

Exposure: Use of Statin during hospital stay and/or at home.

Two-tailed P-value of <0.05 was considered significant.

RESULTS

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cases</th>
<th>Controls</th>
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<tbody>
<tr>
<td>Number, n</td>
<td>269</td>
<td>538</td>
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<tr>
<td>Age, mean (SD)</td>
<td>74.5 (14.6)</td>
<td>74.0 (14.5)</td>
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<td>Gender, male (%)</td>
<td>116 (43.1)</td>
<td>232 (43.1)</td>
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<tr>
<td>Length of hospital stay, median (IQR)</td>
<td>12 (8-17)</td>
<td>12 (8-17)</td>
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<td>PPI use, n (%)</td>
<td>239 (88.8)</td>
<td>478 (88.8)</td>
</tr>
<tr>
<td>Modified Elixhauser co-morbidity measure, mean (SD)</td>
<td>19 (12-25)</td>
<td>19 (12-24)</td>
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<tr>
<td>Statin use, n (%)</td>
<td>85 (32.0)</td>
<td>187 (34.8)</td>
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Statin use was not associated with hospital onset CDI, Chi-square 0.024, p=0.8762, p=3694. Relative risk of acquiring hospital-onset CDI was 0.91 (95% CI 0.73 to 1.22).

CONCLUSION
Our study report no association between Statin use and risk of hospital-onset CDI.

References: