Higher Blood Glucose Levels on the Day of Surgery Are Associated with an Increased Risk of Periprosthetic Joint Infection After Total Hip Arthroplasty

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Hyperglycemia is a risk factor for periprosthetic joint infection (PJI) following total hip arthroplasty (THA)

However, the optimal preoperative blood glucose level (BGL) threshold on the day of the surgical procedure, associated with increased PJI risk, remains under debate

Patients with diabetes Patients without diabetes

Preoperative BGL threshold

90-day odds of PJI

90-day odds for hospital readmission

High-risk cutoff values (1.5 times increased odds of PJI)

Normal values

Preoperative BGL

Risk of PJI

Compared with the normal preoperative BGL cohort, patients with preoperative BGL above the threshold value showed:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Patients with diabetes</th>
<th>Patients without diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of PJI</td>
<td>2.6 times</td>
<td>1.66 times</td>
</tr>
<tr>
<td>90-day readmission</td>
<td>1.92 times</td>
<td>1.66 times</td>
</tr>
<tr>
<td>Additional hyperglycemic complications</td>
<td>3.66 times</td>
<td>4.98 times</td>
</tr>
</tbody>
</table>

Poorly controlled preoperative BGLs independently predict PJI risk after primary THA in patients with and without prior diagnosis of diabetes

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