Introduction

Lumbar spinal stenosis is a common degenerative spine condition. Affects a significantly increasing percentage of the population as it ages, usually those over the age of 65. The "gold standard" procedure for spinal stenosis is a laminectomy, usually concomitant with medial facetectomies and foraminotomies after all conservative treatment options are exhausted.

Common complications of the procedure include durotomy, infection, epidural hematoma, nerve root damage, urinary retention, deep venous thrombosis, and pulmonary embolism. According to the SPORT, durotomy is the most common complication with an incidence rate of approximately 7-9%. Over the past several decades, there has been a shift to conduct more surgical procedures in outpatient and ambulatory settings. This expansion of same day surgical procedures now includes lumbar laminectomies. Several studies have shown this shift to an outpatient setting has even reduced the complication rate for other spine procedures. Although there are several small sample studies that support conducting laminectomies in an outpatient setting, much investigation is still needed in this topic.

Methods

The retrospective cohort analysis comprised of 357 patients who underwent a one- or two-level lumbar laminectomy between January 1, 2018 and December 31, 2018. The total patient cohort was 357 patients, 178 females (49.9%), and 179 males (50.1%) age 65 to 89 years. There were significantly more female patients in our overnight group.

There was no significant difference between groups on the laminectomy spine level, where proportionally more 1-level procedures were noted in the same-day group. There was a significant difference between groups on the laminectomy spine level, with those over the age of 65.

There was no significant difference between the groups on incidence of CVA, hematoma, ARF or nerve injury.

The two groups also did not have a significant difference in the rate of readmissions. However, there was a significantly higher proportion of patients with a dural tear in the overnight group, 7.10% of overnight patients had this complication compared to 0.46% of same-day patients (p-value less than 0.001).

The goal of this study was to evaluate the differences in early complication rates (less than 90 days) between outpatient and overnight laminectomy cases. Our findings revealed that most complications and readmission rates did not differ between the groups, with the exception of dural tear, which was less prominent in the same-day group.

These results can add more credibility to shifting laminectomies to ambulatory/outpatient centers, offering us a cost-effective alternative to traditional overnight procedures.

Comparison of Complications for Overnight vs. Same-Day Laminectomy

Table 2: Summarized Results of Complications

<table>
<thead>
<tr>
<th></th>
<th>Overnight (n = 141)</th>
<th>Same-Day (n = 216)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readmission</td>
<td>8.80% (19)</td>
<td>0.00%</td>
</tr>
<tr>
<td>CVA</td>
<td>9.93% (14)</td>
<td>0.71% (1)</td>
</tr>
<tr>
<td>Hematoma</td>
<td>0.00%</td>
<td>0.71% (1)</td>
</tr>
<tr>
<td>Acute Renal Failure</td>
<td>1.07% (2)</td>
<td>0.46% (1)</td>
</tr>
<tr>
<td>Dural Tear</td>
<td>7.10% (10)</td>
<td>0.71% (1)</td>
</tr>
<tr>
<td>Nerve Injury</td>
<td>0.71% (1)</td>
<td>0.71% (1)</td>
</tr>
</tbody>
</table>

Results

Total patient cohort was 357 patients, 178 females (49.9%), and 179 males (50.1%) age 65 to 89 years. There were significantly more female patients in our overnight group.

Overall patient BMI ranged from 18.9 to 44.0 kg/m2. Patients in the overnight group had a higher BMI.

Although there are several small sample studies that support conducting same-day laminectomies, much investigation is still needed in this topic.

Conclusions

The goal of this study was to evaluate the differences in early complication rates (less than 90 days) between outpatient and overnight laminectomy cases. Outcomes included readmissions, intraoperative and postoperative complications. Our findings revealed that most complications and readmission rates did not differ between the groups, with the exception of dural tear, which was less prominent in the same-day group.

These results can add more credibility to shifting laminectomies to ambulatory/outpatient centers, offering us a cost-effective alternative to traditional overnight procedures.

Subsequent studies may analyze differences in long-term complications for this procedure.

References