Research on the surgical safety of ongoing administration of low-dose aspirin in cervical laminoplasty

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Antiplatelet drugs

**Advantage**

Decreasing ischemic disease

**Disadvantage**

Increasing bleeding complication

Postoperative hemorrhage
Discontinuation of antiplatelet drug

⇒ high risk of recurrent thrombosis

- Previous history of cerebral infarction
  - Recurrence odds ratio 3.4
  - (Maulaz, Arch Neurol 2005)

- Patient with coronary-arteries stent
  - Thrombus formation 29%
  - (Grines, Catheter Cardiovasc 2007)
Which is better?

~ Continuing or not anti platelet drugs ~
during perioperative period

No consensus!
To evaluate the safety of cervical laminoplasty with ongoing low-dose aspirin during perioperative period.
Materials and Methods

✓ Retrospective comparative study
✓ From October 2006 to March 2013
✓ Consecutive 291 pts. with compressive myelopathy
  - Cervical laminoplasty by a single surgeon
  - 51 pts. with ischemic cardiac or stroke disease
    (Administration of low dose aspirin)


**Assessment**

- Aspirin group: 42 pts.
- Control group: 240 pts.

- Amount of **intraoperative bleeding**
- Volume of **postoperative drainage**
- Complications – Epidural hemorrhage, Ischemic event

(Statistical analysis - Mann-Whitney U test)
# Results

<table>
<thead>
<tr>
<th></th>
<th>Aspirin group (N=42)</th>
<th>Control group (N=240)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>73 (46 - 84)</td>
<td>67 (31 - 93)</td>
<td>0.553</td>
</tr>
<tr>
<td>Sex (Male/Female)</td>
<td>31/11</td>
<td>154/86</td>
<td>0.290</td>
</tr>
<tr>
<td>PT-INR</td>
<td>0.97 (0.83 - 1.22)</td>
<td>1.0 (0.79 - 2.15)</td>
<td>0.733</td>
</tr>
<tr>
<td>APTT</td>
<td>27.5 (23.3 - 36.2)</td>
<td>27.3 (21.6 - 43.8)</td>
<td>0.711</td>
</tr>
<tr>
<td>Bleeding time (min)</td>
<td>1.5 (1.0 - 9.5)</td>
<td>1.5 (1.0 - 4.0)</td>
<td>0.534</td>
</tr>
</tbody>
</table>

Median value (range)
No complications in Aspirin group

One cerebral infarction in Control group
Discussion

✓ Generally recommended

1. Discontinuation of low dose aspirin **7 to 10 days** before surgery (Kristiansen, Chest 2014)

2. **Heparin** displacement during aspirin holidays

⇒ Length of hospital stay & medical cost

✓ For most non-cardiac operation, continuation of **low-dose aspirin** do not increase a risk of bleeding.

(Burger, J Internal Med 2005)
Conclusion

✓ Patients underwent cervical laminoplasty had not a single occurrence of spinal cord disorder caused by postoperative epidural hematoma under ongoing administration of low-dose aspirin.

✓ Present study shows the safety for perioperative management of the patients at increased risk of ischemic disease in the prevention of perioperative fatal complications.

(None of the authors has any potential conflict of interest.)