The influence of protamine test dose on the ACT

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Background

• When to stop cardiotomy suction?
• ACT after protamine test dose (50 mg)
• Is it safe to use cardiotomy suction?

AIM

• The effect of protamine test dose on the ACT

Materials

• 20 patients (18 men, 2 women)
• On-pump
• Elective CABG

Exclusion criteria

• Age ≥76 years old
• EF <40 %
• Hematologic disorders

Exclusion criteria cont.

• Liver disease
• Redo or emergency surgery
• Valve or combined procedures
Methods

• Heparin coated circuits

• Full dose heparinization (300-400 IU/kg)

• Target ACT of 480 sec

Methods cont.

• After end of CPB and venous decannulation

• Blood sucked out

• Protamine test dose (50 mg)

Methods cont.

• 3 min later
  – Bloodsample from both
    • Cardiotomy suction line
    • Patients arterial line

ACT measurement in the CS line

ACT apparatus

Results

<table>
<thead>
<tr>
<th>ACT values</th>
<th>Mean ± SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT before protamine test dose</td>
<td>539 ± 54</td>
<td>440-665</td>
</tr>
<tr>
<td>ACT CS after protamine test dose</td>
<td>412 ± 52</td>
<td>331-513</td>
</tr>
<tr>
<td>ACT art.line after protamine test dose</td>
<td>356 ± 54</td>
<td>278-484</td>
</tr>
</tbody>
</table>
• We found a significant reduction of the ACT after protamine test dose administration in both the cardiotomy suction line and in the patients arterial line.
• ACT in CS line remained well above 300 seconds in all patients, which is according to the literature above the safety limit of 300 seconds.

• It was seen a more marked protamine effect with increasing age, and CS use after protamine test dose administration in this group should be used with caution.