TEG assessment of coagulation in a porcine model of acute liver failure

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Durban ICC
Average Viable Cell yield from a typical experiment (n=9)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>± SE</th>
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</thead>
<tbody>
<tr>
<td>Initial cells / ml beads (millions)</td>
<td>2.20</td>
<td>0.19</td>
</tr>
<tr>
<td>Final cells / ml beads (millions)</td>
<td>43.35</td>
<td>4.12</td>
</tr>
<tr>
<td>Cell yield at end in billions</td>
<td>53.26</td>
<td>4.76</td>
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<tr>
<td>Beads at end of experiment (mL)</td>
<td>1245</td>
<td>87</td>
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</tbody>
</table>
In vitro function
Timeline

BAL in an ischaemic model of acute liver failure in pigs

-4h  -3h  -1h  0h  2-2.5h  10.25h  11.25h
Intubate  Insert brain monitors  Create Portacaval shunt  Ischaemia  Remove BAL  Harvest tissues
ICP  Brain shunt  arterial and venous catheters  Urine catheter
Protocol

• Observational study assessing coagulation using Thromboelastography in a porcine model of acute liver failure
• Study approval from AREC of UCT
• Funded by research grant
Methodology

- 16 Landrace pigs studied
- Haemoscope® TEG machine
- Arterial blood sample’s used
- Standardized technique used
• Baseline sample
• Time zero
• Two hourly samples thereafter
PIG S
PIG T with cells
Pig Z with cells
Conclusion

• TEG useful in assessing coagulation in acute liver failure in a porcine model
• Pigs appear to be hypercoaguuable on TEG
• TEG does not appear to change dramatically with worsening liver failure
• BAL appears to reverse coagulopathy in selected cases
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• Harold Stuurman
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