Repeatability of USCOM®-measured cardiac output and systemic vascular resistance in normotensive non-pregnant and pregnant women

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A simple device to measure cardiac output in pregnant women
Background

- Early changes – lower cardiac output (CO) and higher systemic vascular resistance (SVR)
- Measurement of CO and SVR currently impractical
- Use in prediction, monitoring, tailoring therapy
The USCOM
Aims

• Absence of USCOM data in pregnancy
• Cannot assess use in prediction or accuracy
• Conclusions cannot be drawn from non-pregnant data
• We assessed repeatability in pregnancy
Methods

• 30 non-pregnant, 30 pregnant of any gestation
• Cardiac or renal disease excluded to standardise approach
• Five CO measurements in each woman, identical technique
• BP measured to calculate SVR
Results – cardiac output

Repeatability of CO Readings

Cardiac output (litres/min)

Patient Identifier

Pregnant
Non-pregnant
Conclusion

• This study demonstrates that single measurements with the USCOM are highly consistent.

• Good repeatability encourages further investigation of accuracy and value as a predictive tool.
Results – systemic vascular resistance

- Mean SVR pregnant 981 (201) vs non-pregnant 1211 (271)
## Results

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<tr>
<th>Measurement</th>
<th>Group</th>
<th>Between-patient</th>
<th></th>
<th></th>
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<th>Residual</th>
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<tbody>
<tr>
<td></td>
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<td>Variation</td>
<td>SD</td>
<td>Variation</td>
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<tr>
<td>CO (L/min)</td>
<td>Pooled</td>
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<td>1.3686</td>
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