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Does Simultaneous Lower Body Perfusion During Aortic Arch Repair With Circulatory Arrest Improve Patient Outcomes?

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The Society of Thoracic Surgeons

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European Association For Cardio-Thoracic Surgery

DISCLOSURES

- Michael Chu
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    - Canadian Institute of Health Research
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    - Ontario Research Fund
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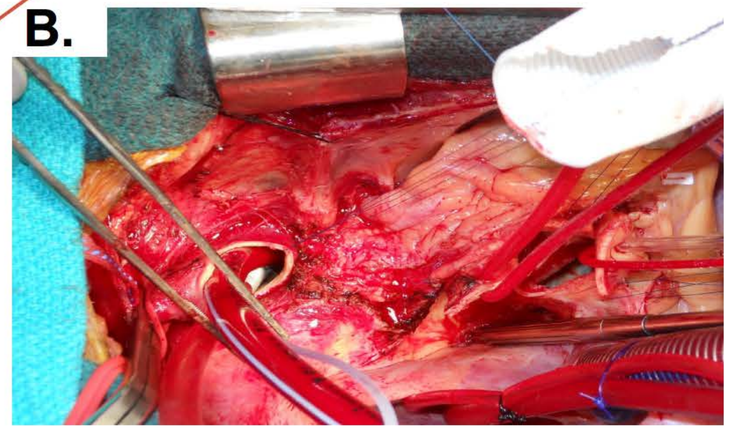
- Bob Kiaii
  - Consultant with Medtronic, LivaNova, Johnson and Johnson, Symetis

Circulatory Arrest

- Moderate hypothermic circulatory arrest (25– 28 C)

Does a whole body perfusion strategy during aortic arch surgery under moderate hypothermia improve patient outcomes and reduce metabolic derangement and lengths of stay?

CPB Circuit



Arch Recon with Circ arrest

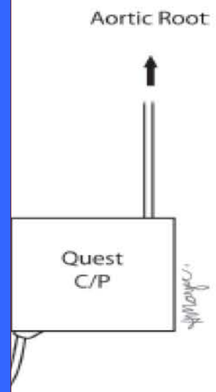
n = 149

ACP alone (A)

n = 48

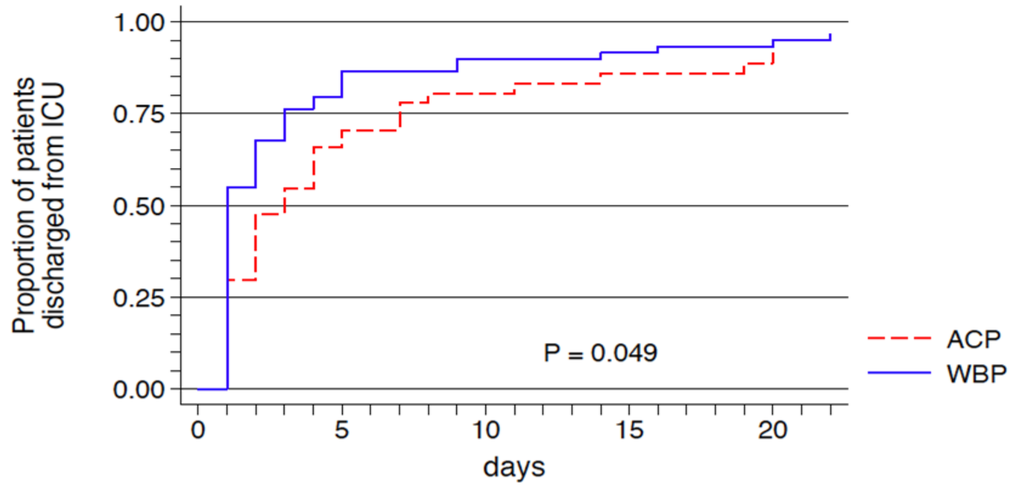
Whole Body Perfusion (A+B/C)

n = 101



Results

- No significant difference in 30-day/in-hospital mortality, stroke, or renal failure
- WBP group had a significant reduction in serum lactate at ICU admission and a reduced time to lactate normalization
- WBP group showed a trend towards earlier ICU discharge (p=0.06)



Median [IQR] ICU Length of Stay

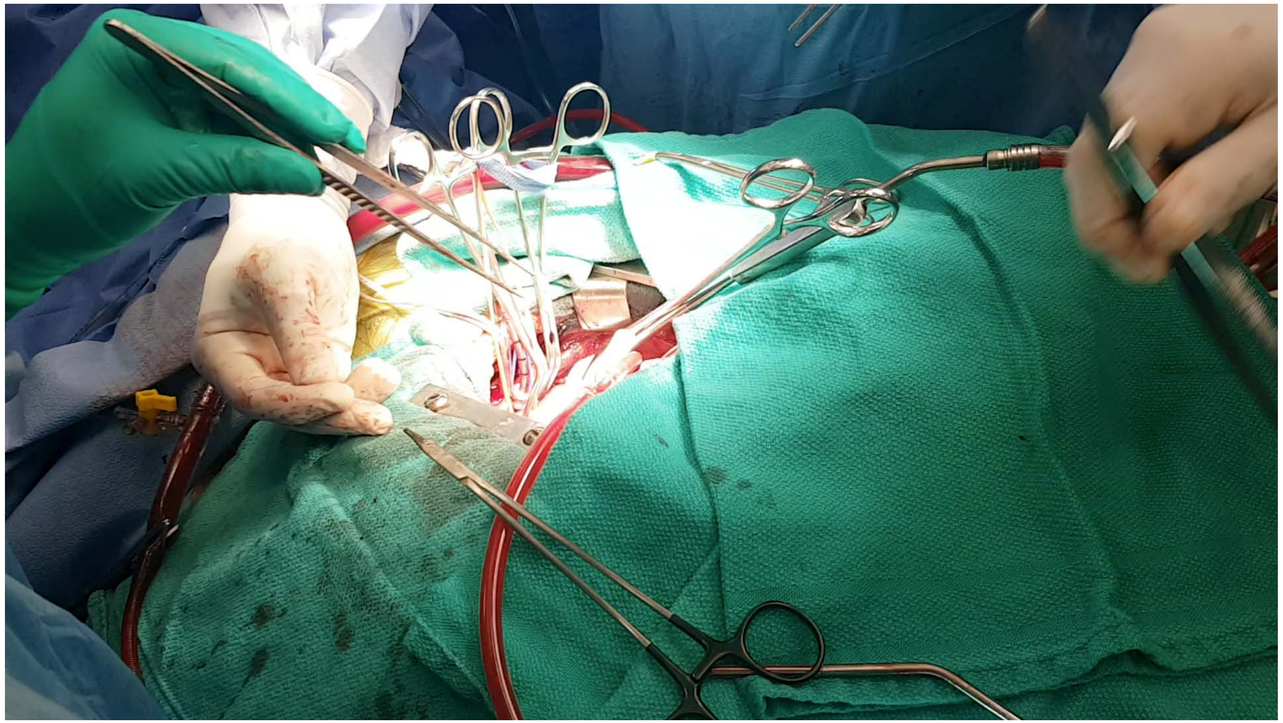
WBP Group: 1 [1,3] day

ACP Group: 2.5 [1,6] days

p = 0.061

Discussions/Conclusions

- **Addition of lower body and visceral protection**
  - Hyperlactatemia 6 hours after ICU admission is an independent risk factor for complications after cardiac surgery *(Hajjar 2013)*
- **Whole body perfusion strategy appears to be associated with good patient outcomes in complex aortic reconstruction under moderate hypothermic circulatory arrest**
  - No increased risk of post-operative complications
  - Lactate levels normalize more quickly with WBP
  - WBP is associated with reduced ICU length of stay



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Thank You

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