

STS/EACTS Latin America Cardiovascular Surgery Conference
September 21-22, 2017 | Cartagena, Colombia

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Circulatory Management in Aortic Arch Reconstruction



Disclosures

No disclosures

Agenda

1. History: DHCA
2. Problems with Hypothermia
3. Selective Antegrade Cerebral Perfusion
4. How Cold?
5. Options for Cannulation
6. Experience and Results
7. Conclusions

Even at these low temperatures, however, it is dangerous to deprive the brain, and to a lesser extent the heart, of oxygen for longer than 30 minutes.

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Temperature Management: As Cold as Possible

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Presented at the 29th European Association of Cardio-Thoracic Surgery Annual Meeting

Surgery of aortic arch aneurysm – A ten-year experience with cold cerebroplegia

J. Bachet, D. Guilmet, G. Dreyfus, B. Goudot, A. Piquois

Mild-to-moderate hypothermia in aortic arch surgery using circulatory arrest: a change of paradigm?[†]

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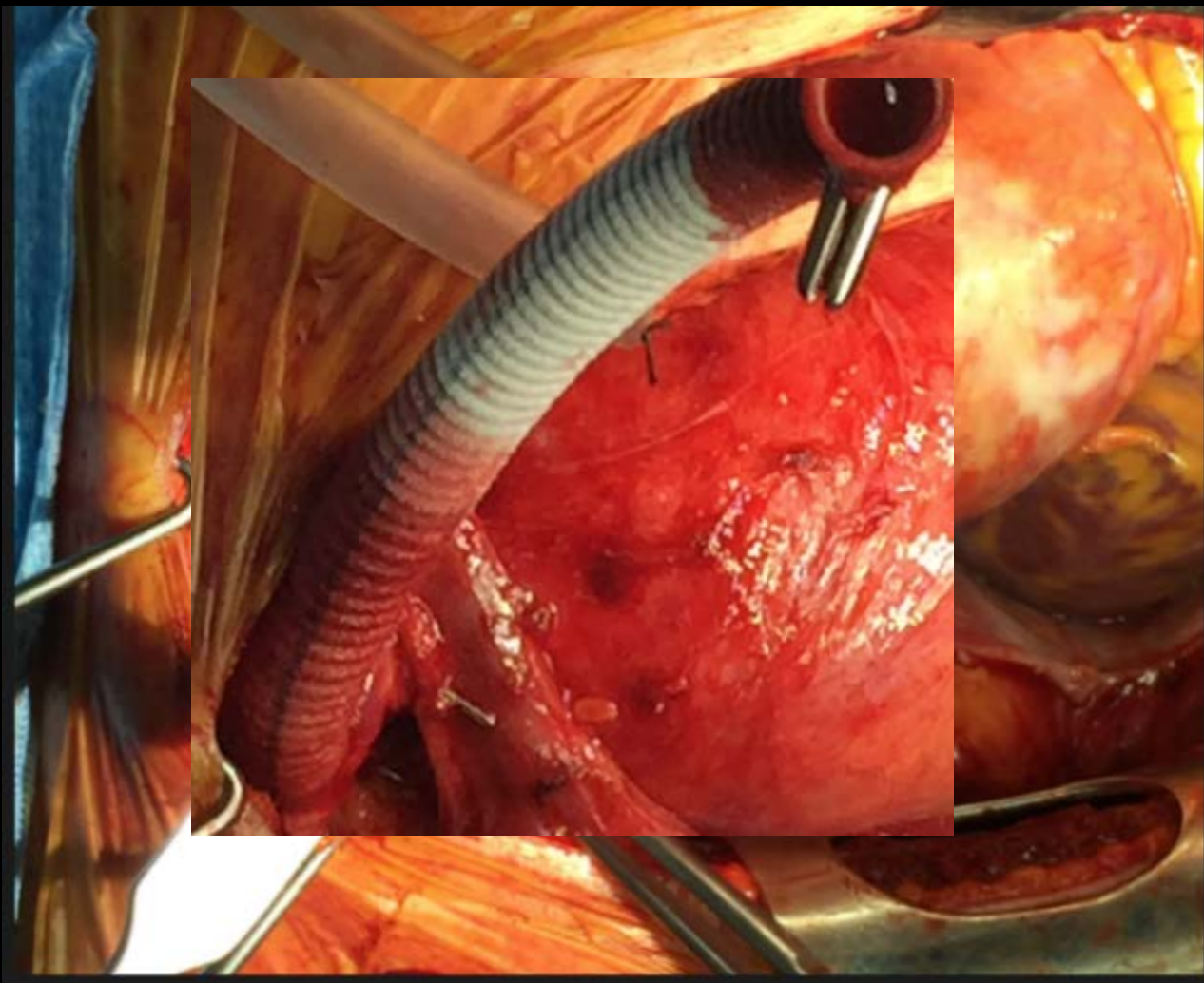
Is More than One Hour of Selective Antegrade Cerebral Perfusion in Moderate-to-Mild Systemic Hypothermic Circulatory Arrest for Surgery of Acute Type A Aortic Dissection Safe?

Moderate hypothermia at warmer temperatures is safe in elective proximal and total arch surgery: Results in 665 patients

Selective antegrade cerebral perfusion and mild (28°C-30°C) systemic hypothermic circulatory arrest for aortic arch replacement: Results from 1002 patients

Moderate Versus Deep Hypothermic Circulatory Arrest for Elective Aortic Transverse Hemiarch Reconstruction

**Visceral organ protection in aortic arch surgery:
safety of moderate hypothermia[†]**



Patients (1.14-7.17)

N	95	
M/F	63/32	
Age	60 (19-86)	
	N	%
Aneurysm	64	67
Chronic Dissection	9	9.5
Acute Dissection	16	16.8
Other	5	5.3

Patients (2)

	N	%
Previous Open Heart Operation	10	10.5

INDICATION

Elective	77	81
Urgent or Emergent	18	19

Steps

1. Cannulate innominate through 10 mm graft
2. Cool to 28 or 30 C° (blood)
3. Snare left carotid and innominate
4. Perfuse at 10 to 15 cc/kg
5. Remove cross clamp
6. Work in the aorta

Operative Data

	N	%
Hemiarch	76	80
Partial or Total Arch	19	20
Elephant Trunk (Frozen or Conventional)	7	7.3
Aortic Root Replacement or Preservation	19	20
Aortic Valve Repair or Replacement	24	25
Other	17	18

Operative Data

Median Sternotomy	85	90%
Partial (J)	10	10%
Cross Clamp Time (min)	83 ± 38	34-255
Cardiopulmonary Bypass Time (min)	123 ± 46	60-343
SACP (min)	22 ± 12	10-67

Operative Outcomes

	N	%
Mortality	2	2.1
Reop for Bleeding	8	8.4
Perm Neuro Def	2	2.1
Trans Neuro Def	3	3.2
Atrial Fibrillation	18	19.5

BLEEDING 12 h	N	%
< 300 cc	52	54.7
300-600 cc	27	28.4
> 600 cc	16	16.8
Transfused	50	52.1

MECHANICAL VENTILATION

Extubated in O.R.	12	12.6
< 6 hours	43	45.2
> 6 hours	40	42.1

Conclusions

1. Safe strategy
2. Simplifies intraoperative management
3. Simplifies postoperative management

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Thank You

