Clot Retrieval
*A Cardiologist’s Perspective*

Dr Nick Cruden
Consultant Cardiologist
Royal Infirmary of Edinburgh
Clot Retrieval in ST elevation MI

Meta-analysis of RCTs Primary PCI vs Thrombolysis

23 trials : 7739 STEMI patients

- **Death**: p=0.0002
- **Non-fatal re-infarction**: p<0.0001
- **Stroke**: p=0.0004

*Keeley et al. Lancet 2003; 361 : 12-20*
Clot Retrieval in ST elevation MI
ECG Telemetry

Abnormal ECG **Unconfirmed**
Normal sinus rhythm with 1st degree AV block
Left ventricular hypertrophy with repolarization abnormality
ST elevation consider inferior injury or acute infarct

**Patient ID:**

**Date:**

**Time:**

**BR:**

**T:**

**R:**

**S:**

**P---QRS-T Axes:**

**V1**

**V2**

**V3**

**V4**

**V5**

**V6**

**aVR**

**aVL**

**aVF**

**Lead II**

**Lead III**

**Lead aVR**

**Lead aVL**

**Lead aVF**

Medtronic Physio-Control

Comments:

MUS451 07965874962 3011371-099 LP1231
Clot Retrieval in ST elevation MI
Clot Retrieval in ST elevation MI
Similarities with Stroke

• Time dependent
• Diagnostic test to trigger pathway (CT)
• Patient condition and co-morbidity
• Invasive, vascular lab procedure
• Team-based approach
• Complications: vascular access/bleeding/cardiovascular instability
• HDU/CCU level aftercare
Clot Retrieval for Stroke: A Potential Role for Cardiologists

From: BMJ 2015;351:h3969 (Published 27 July 2015)

JACC White Paper

Stroke Intervention: Catheter-Based Therapy for Acute Ischemic Stroke

Christopher J. White, MD,* Alex Abou-Chebl, MD,† Christopher U. Cates, MD,‡ Elad I. Levy, MD,* Paul W. McMullan, MD,§ Krishna Rocha-Singh, MD∥ Jesse M. Weinberger, MD,¶ Mark H. Wholey, MD#

New Orleans, Louisiana; Louisville, Kentucky; Atlanta, Georgia; Buffalo and New York; Springfield, Illinois; and Pittsburgh, Pennsylvania
Combining Clot Retrieval Services?

Advantages

– Nationwide 24/7 Interventional Service
– Infrastructure and staffing largely in place

Potential Barriers

– Labour intensive
– Implications for daytime working
– Training
Clot Retrieval for Stroke
Potential Role For Cardiologists

Original Studies

Acute Stroke Intervention by Interventional Cardiologists

James T. DeVries, MD, Christopher J. White,*, MD, Tyrone J. Collins, MD, J. Stephen Jenkins, MD, John P. Reilly, MD, Mark A. Grise, MD, Paul W. McMullan, MD, Ramy A. Badawi, MBBS, and Stephen R. Ramee, MD


Predictors of Outcomes Following Catheter-Based Therapy for Acute Stroke

Nay Htyte,*, MD, MS, Parham Parto, MD, Shawn Ragbir, MD, Leeor Jaffe, MD, and Christopher J. White, MD, FACC, FSCAI, FAHA, FESC

Clot Retrieval for Stroke

• Oschner Heart and Vascular Centre, New Orleans

• Service delivered by hybrid rota

• Acute stroke physician assumes responsibility for patient

• Outcomes
  – 124 patients
  – recanalisation rate of 80%
  – 30-day mortality 26%
  – no difference in neurological outcomes for cardiologist vs neuroradiologist
Summary

• Evidence that Interventional Cardiologists can contribute to a clot retrieval service for stroke
• Broad support amongst cardiology community within Scotland
• Leadership
  – Interventional Neuroradiology
  – Stroke
• Training
• Temporary or longer term solution?
Clot Retrieval for Stroke
We can work it out!