

# Reperfusion of Ischaemic Stroke 220km away from nearest Interventional Neuroradiology Centre – Introduction of a new pathway and a review of one Emergency Department’s practice over 18 months.

Roisin Daly, Senior Radiographer, Radiology Department;  
 Dr Edward Herridge, Registrar, Emergency Department;  
 Dr Hossam Hamad, Senior House Officer, Emergency Department;  
 Anne Stevenson, Clinical Specialist Radiographer, Radiology Department;  
 Dr Mick Sweeney, Consultant, Emergency Department; Sligo University Hospital

## INTRODUCTION

Multiple clinical trials have shown positive benefit of interventional thrombectomy in the management of acute ischaemic stroke<sup>1,2</sup>. This presents a major challenge when the nearest interventional centre is 220km away, and when minimizing time to treatment is essential.

In late 2015, the Emergency Department (ED) and the Radiology Department in Sligo added consideration of this therapy to our Possible Ischaemic Stroke Management Pathway, using Multiphase CT Angiography (CTA) as the imaging modality of choice<sup>3</sup>. We present an 18-month retrospective observational study of patients who presented to the Emergency Department with ischaemic stroke, and were considered for interventional therapy.

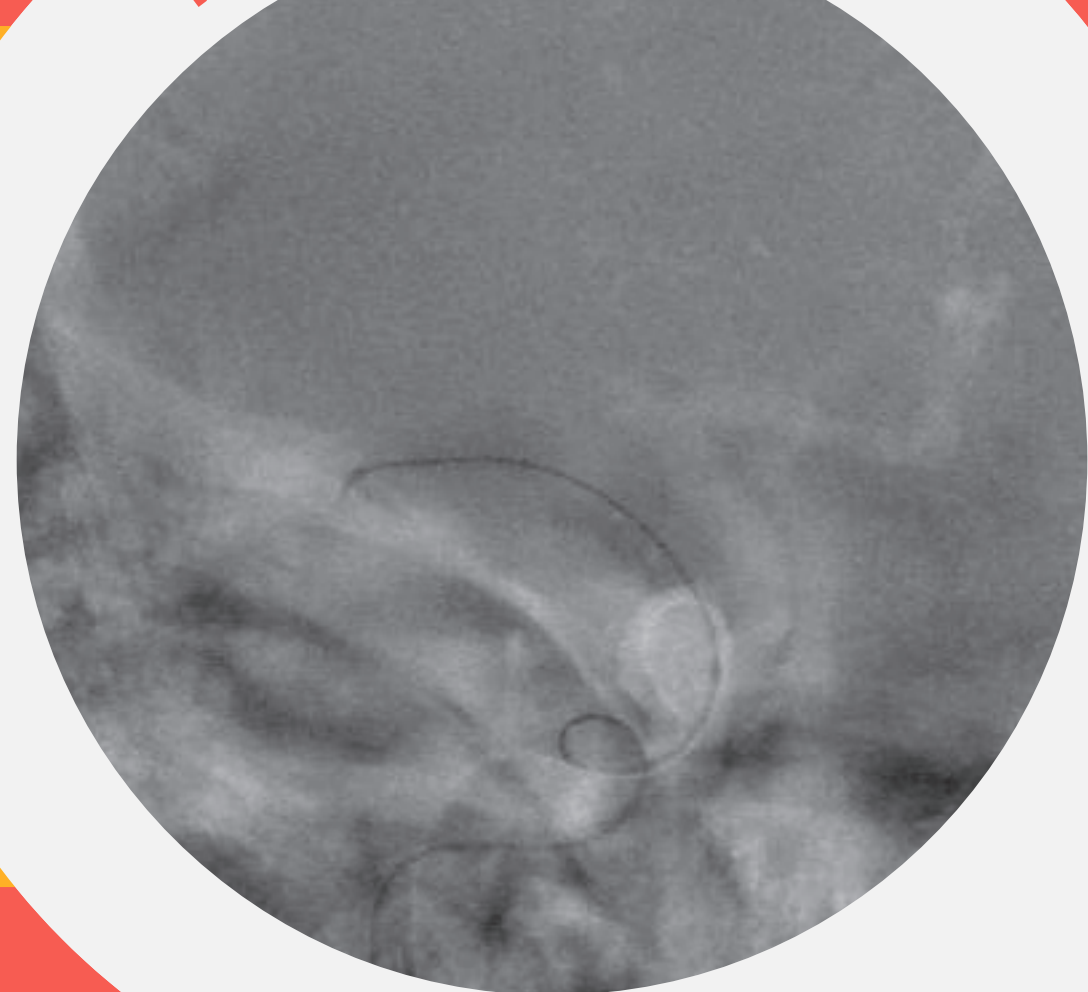
Filling defect of R MCA as demonstrated by Multiphase CT Angiogram



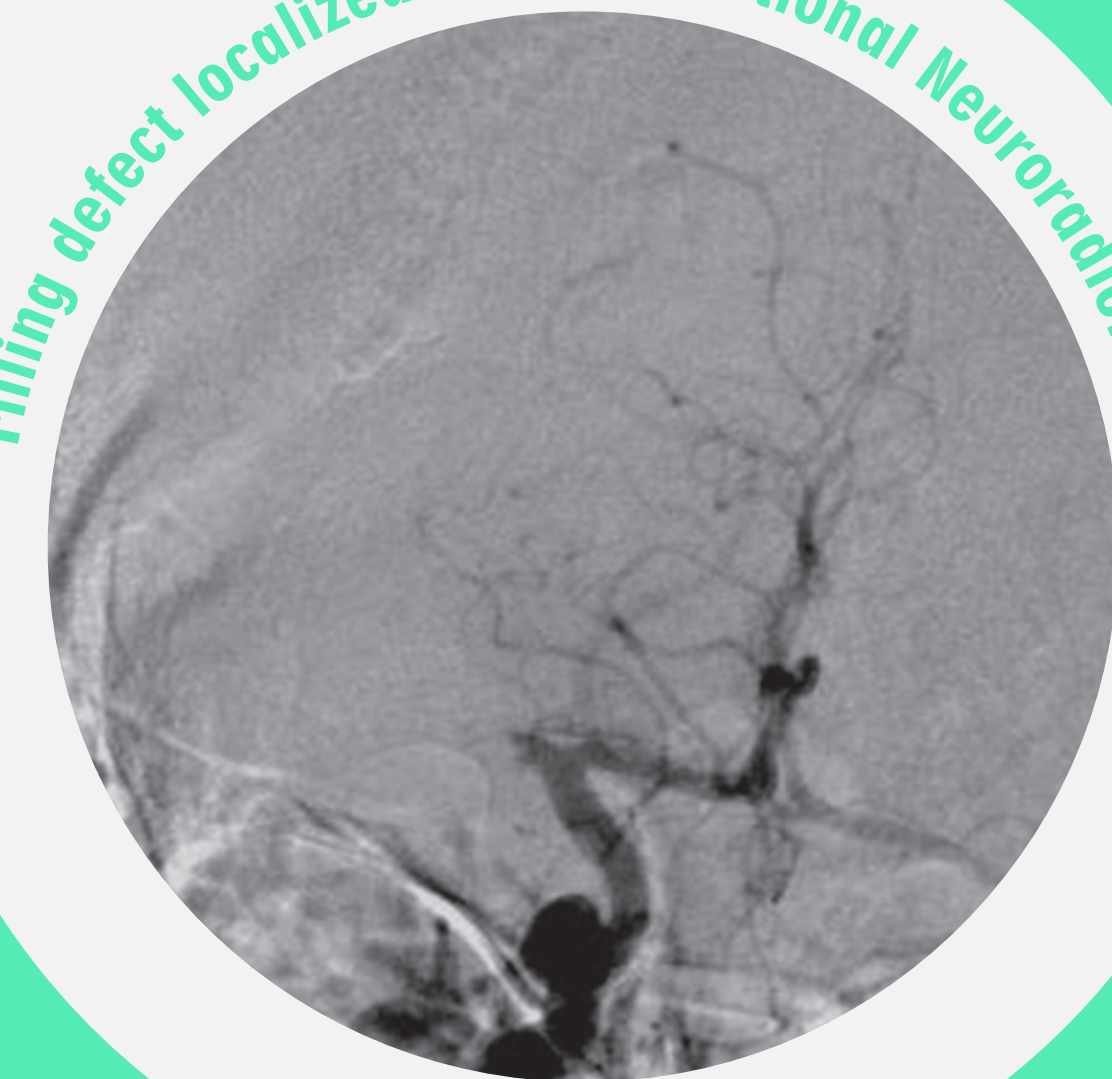
## METHODS

Retrospective chart review from January 2016 to August 2017. All patients who had a Multiphase CTA for stroke ordered by the ED were identified using NIMIS database. The charts and NIMIS data were reviewed for timelines, severity scores, interventions carried out, and outcomes.

Thrombectomy in progress



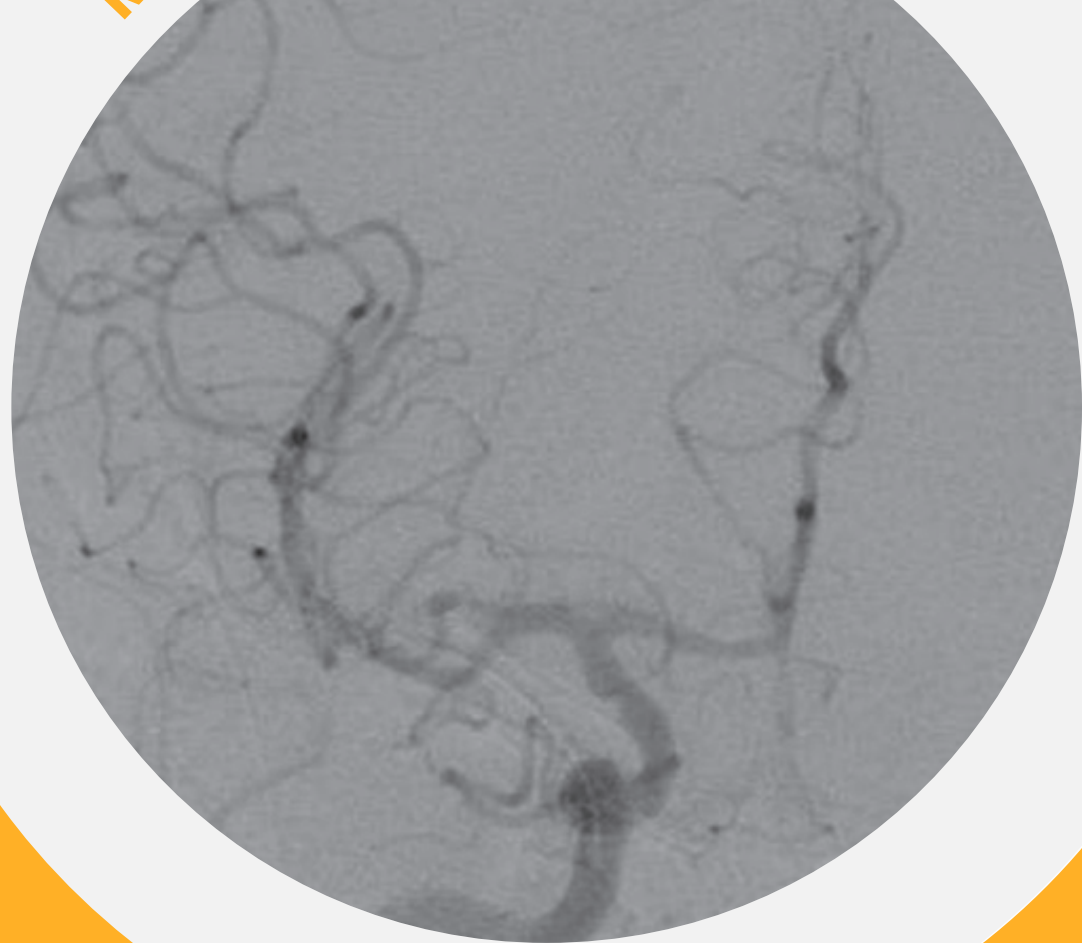
Filling defect localized by Interventional Neuroradiology



## OBJECTIVE

To determine whether the implementation of a new pathway for acute stroke patients, combined with remote site mechanical thrombectomy would improve neurological outcomes, despite the distance between facilities.

Reperfusion post thrombectomy



## RESULTS

Over an 18-month period, 30 patients who attended with symptoms of ischaemic stroke had an emergency CTA. The average time from door to CTA was 92 minutes. 9 patients were transferred to Beaumont Hospital, and 5 had interventional therapy, all of whom had shown exceptional recovery. We describe the characteristics of those selected for interventional treatment (Figure 1), and the mortality and neurological outcomes of the patients (Figure 2 and 3).

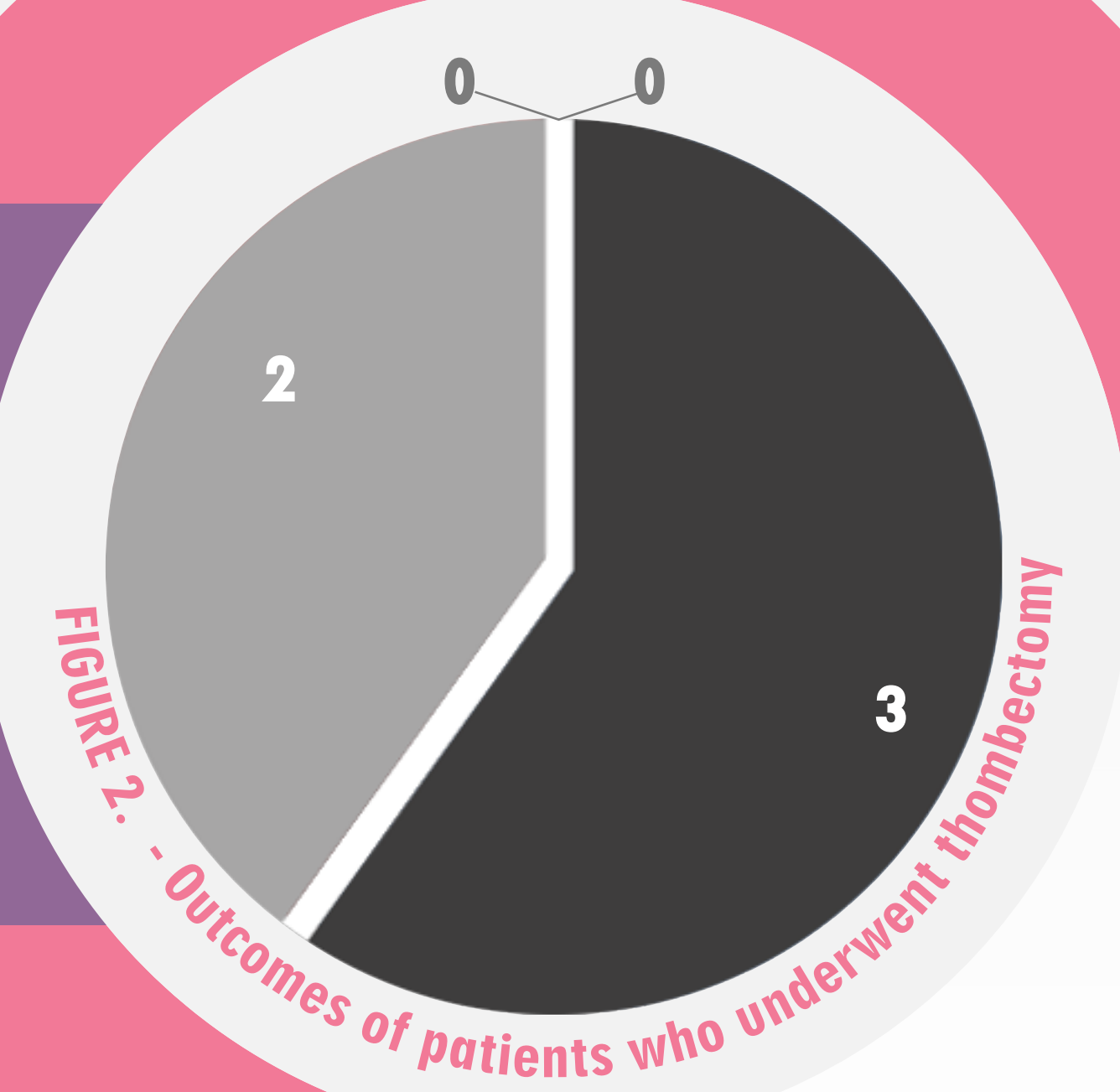
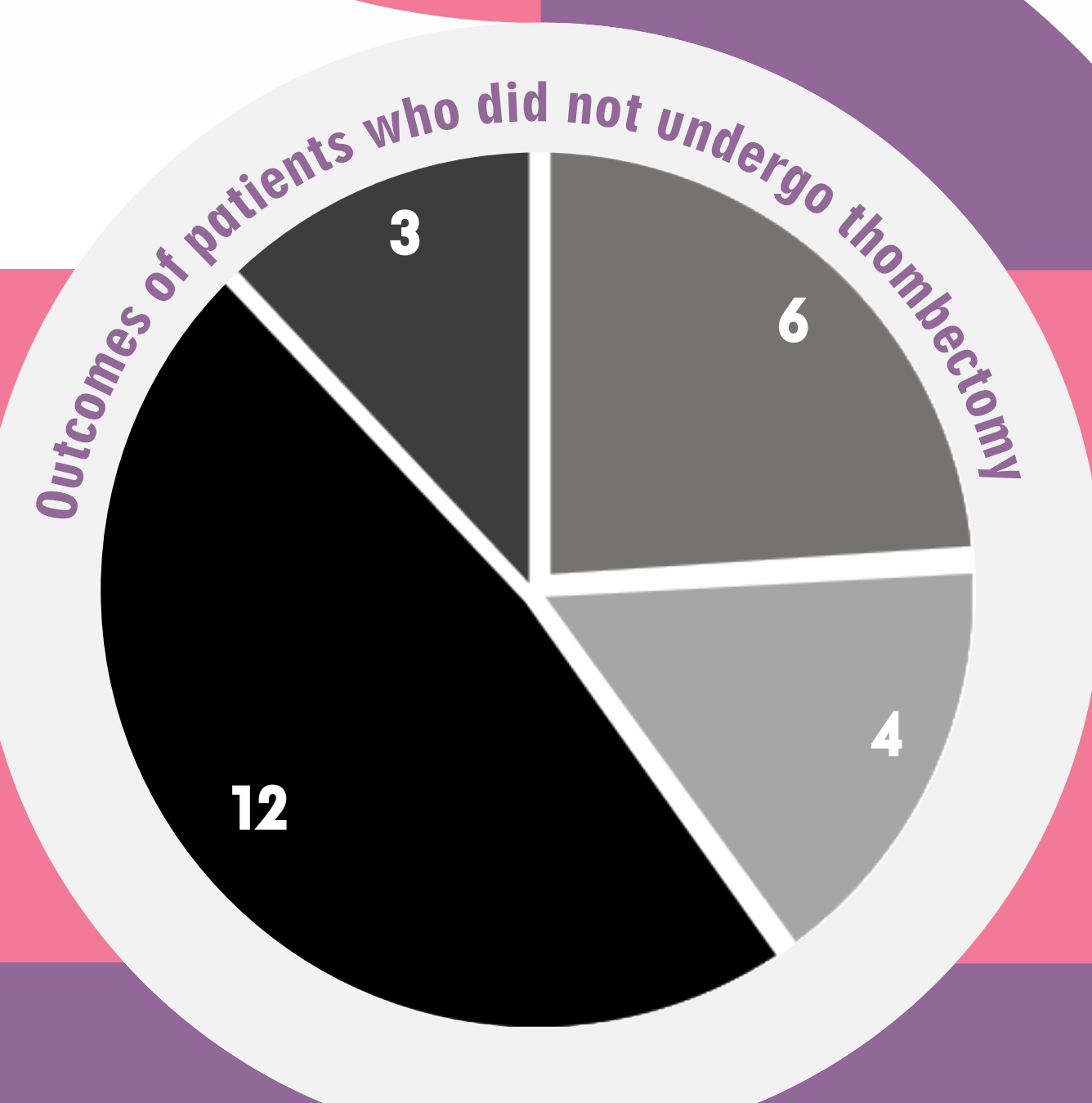


FIGURE 1. - Patients who underwent thrombectomy

PATIENT	AGE	GENDER	DEFICIT	NIHSS	OCCUSION	OUTCOME
1	53	M	L HEMI	13	R MCA	Baseline
2	58	M	L HEMI	10	R MCA	Baseline
3	76	F	L HEMI	12	R MCA	Baseline
4	39	F	Low GCS	12	Vertebral Art	Mild Dysarthria
5	44	M	R HEMI	10	Basilar Art	Mild Dysarthria



## DISCUSSION

Mechanical thrombectomy is shown to improve neurological outcomes in acute stroke patients, as well as decreasing the burden of disease<sup>4,5</sup>. The implementation of a new, streamlined Management Pathway ensures confident workup and early identification of patients eligible for endovascular intervention. Coupled with the use of Multiphase CT Angiography, acute stroke patients can be managed aggressively, despite the distant location of the accepting Interventional Neuroradiology Department.

## REFERENCES

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