

Percutaneous thrombectomy service for acute pulmonary embolism

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BACKGROUND

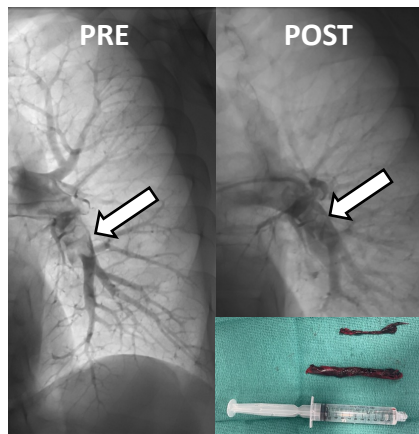
Pulmonary embolism (PE) is common and associated with up to 15% early mortality¹. Percutaneous interventions could potentially improve outcomes, reduce length of stay and improve right ventricular (RV) recovery.

Percutaneous thrombectomy with the FlowTrierer system allows mechanical extraction of clot within a single session without the need for thrombolytics. It has been shown to be safe with shortened length of hospital stay compared to catheter-directed thrombolysis² but is not yet widely used in the UK.

OBJECTIVE

To set up a regional percutaneous thrombectomy service offering 24/7 access for patients presenting with acute intermediate-high risk PE

Case Example: 58-year-old male with intermediate-high risk PE treated with percutaneous thrombectomy



METHODS

The Royal Free Hospital (RFH) already has an established 24/7 catheter-directed thrombolysis (CDT) service. The thrombectomy service was designed as an add-on to this service enabling an alternative treatment option where CDT was contraindicated (eg high bleeding risk, haemodynamic instability, recent surgery).

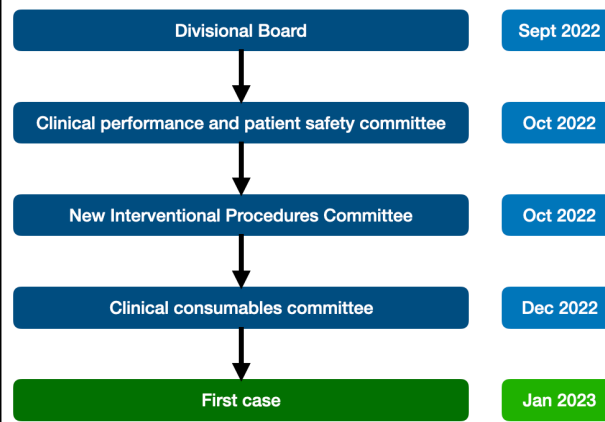
A treatment protocol was designed, and the procedure went through a full local approval process (Figure 1).

Formal training was provided to operators, cath lab team and ward team by the device manufacturer.

A pathway for referral centers was created and presented to the clinical teams at each of the referring hospitals.

Outcomes were audited at 3 months following initiation of service.

Figure 1: Local approval process



RESULTS

9 cases were performed from 16th January to 16th March 2023

All cases were intermediate-high risk PE

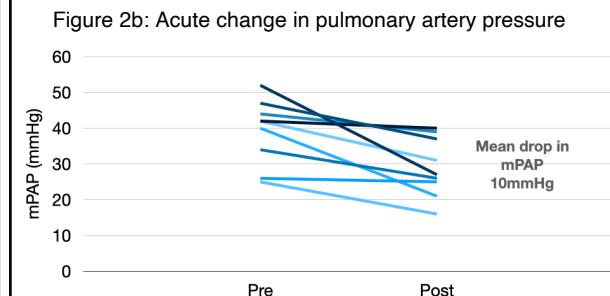
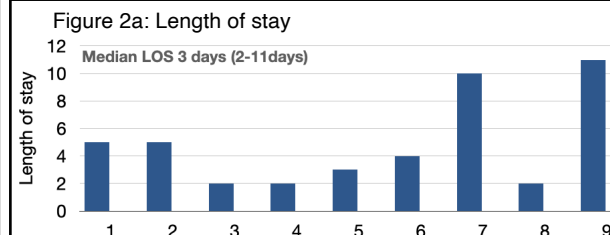
Median age 60 years (46-76 years)

2 internal referrals, 7 external (from 5 different centres)

No intra-procedural complications, no mortality

Median length of stay 3 days (2-11 days) (Figure 2a)

Mean reduction in pulmonary artery pressure (measured invasively) 10mmHg (Figure 2b)



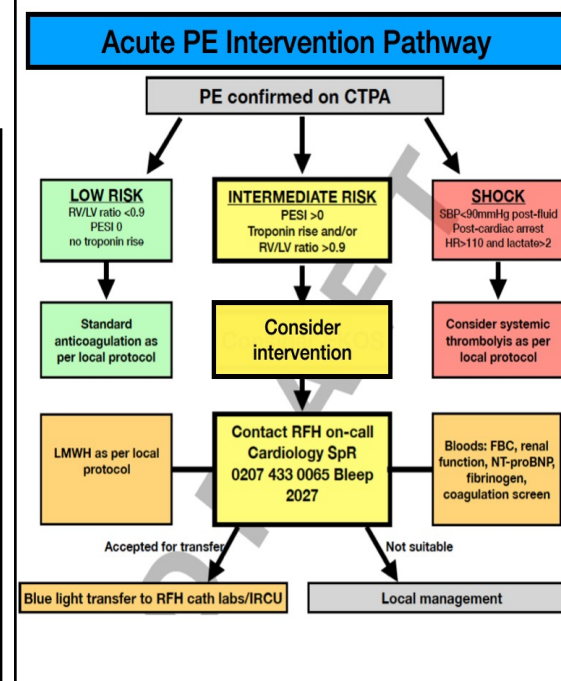
SUMMARY

The RFH acute PE interventional pathway is now established and takes acute referrals from local hospitals (Figure 3).

FlowTrierer thrombectomy is now in routine clinical use as an adjunct to standard anticoagulation in intermediate-high risk acute PE cases and provides an alternative to CDT.

Early experience shows the procedure to be safe with immediate reduction in pulmonary arterial pressure and short length of hospital stay.

Figure 3



REFERENCES

- Hosna SA et al. *Int J Radiol Radiat Ther* 2017;4:470-472
- Toma C et al. *EuroIntervention* 2023;18:1201-1212