



Clinical and Procedural Outcomes Between Ultra-Sound Accelerated Thrombolysis and Catheter Directed Thrombolysis for Pulmonary Embolism

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Introduction

Catheter-directed thrombolysis (CDT) for acute pulmonary embolism (PE) is effective in reducing right ventricular (RV) dysfunction, pulmonary artery pressure (PAP), and pulmonary thrombus burden.

Integrated endovascular ultrasound (USAT) can facilitate more rapid dissolution of thrombus.

We aimed to evaluate CDT in comparison with USAT for the treatment of acute massive and submassive PE.

Methods

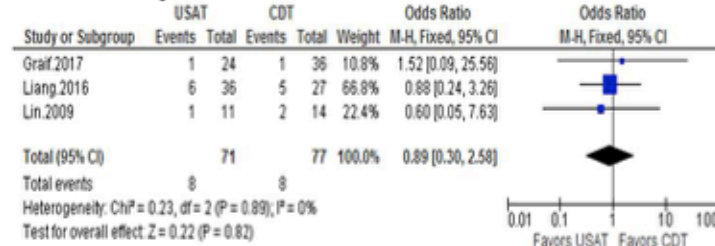
Pub Med and Cochrane databases were systematically searched for clinical studies comparing directly the procedural and clinical outcomes between USAT and CDT.

The primary endpoint was mortality post-procedure.

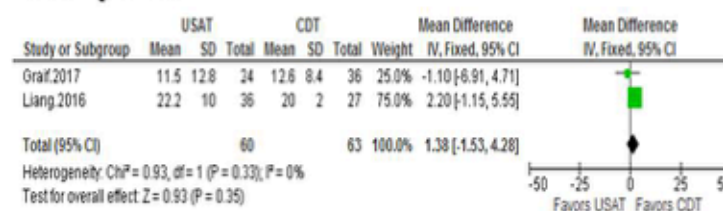
Secondary endpoints included pulmonary artery systolic pressure mean variation, procedure times and major bleeding.

We used the Cochrane Handbook of Systematic Reviews and RevMan 5.2 for statistical analysis.

Mortality



PA Systolic



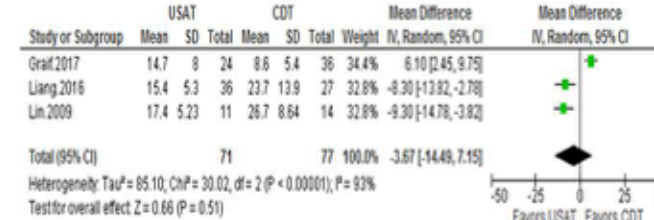
Results

A total of 3 retrospective studies provided a total of 148 patients (USAT: 71 and CDT:77).

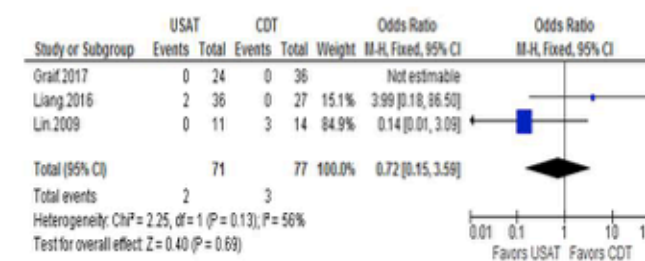
Mortality rates were similar between USAT and CDT (11% vs. 10.3%, p>0.05). PA systolic pressure mean variation were similar between groups (p>0.05).

Procedure time did not differ between the groups although two of the three studies reported significant shorter time in the USAT group. Major bleeding represented less than 4% and did not differ between groups.

Procedure Time



Major Bleeding



Conclusions

Our analysis suggests similar clinical and procedural outcomes between USAT and CDT.

USAT method involves sophisticated catheters that might increase the costs.

This is theoretically compensated by shorter infusion times, resulting in less TPA use.

In-deep analysis of further studies is necessary to evaluate these findings.

