A reappraisal of thrombolysis in primary deep vein thrombosis of upper extremities: Be conservative

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ABSTRACT

Thrombolysis is increasingly used in academic centres as first line management in patients who present within the first two weeks of the index event and upper extremity primary deep vein thrombosis (UEDVT). The purpose of this report is to establish whether this approach is evidence based. A review of the recent literature showed that thrombolysis should be offered to a small number of young and active patients with severe acute symptoms, who are very concerned about developing post-thrombotic syndrome. The majority of the patients can still be treated with anticoagulation alone as there is only limited evidence on the merits of thrombolysis for the initial management of patients with UEDVT.

Keywords: Primary upper extremity deep vein thrombosis, thrombolysis.

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In a case-control study, 45 consecutive patients who were treated for primary UEDVT received either oral anticoagulant therapy alone (n=14, Group 1), thrombolysis followed by anticoagulant therapy (n=14, Group 2), or thrombolysis, transaxillary first rib resection and anticoagulant therapy (n=17, Group 3). The study endpoints were persisting symptoms and QoL. The mean follow-up was 57±46 (range, 2 to 176) months. Patients in Groups 2 and 3 had significantly less pain, swelling, and fatigue in the affected limb at six weeks. However, there was no significant difference in pain (p=0.90), swelling (p=0.58), fatigue (p=0.61), functional impairment (p=0.61), recurrence (p=0.10) or QoL (p=0.25) among the groups at the end of follow-up. Treatment strategy was not predictive of QoL (p=0.91, analysis of variance). No significant differences in the long-term symptoms or QoL between those with successful and unsuccessful thrombolysis were observed. The author concluded that thrombolysis with or without first rib resection did not appear to contribute to sustained symptom reduction and QoL improvement. In an earlier study, Héron et al. reported no significant association between the occurrence of PTS and ultrasonographic findings after conventionally treated spontaneous UEDVT.

In another interesting retrospective analysis of 103 patients who had 110 first rib resections, 45 subclavian veins underwent thrombolysis with or without venoplasty prior to first rib resection and were compared to 65 subclavian veins on preoperative anticoagulation alone. Of the veins treated with endovascular method, 91% were patent with symptomatic relief. In the group of veins treated with anticoagulation alone prior to first rib resection at 16 months of follow-up, 91% were patent with symptomatic relief. The authors concluded that preoperative thrombolysis provided no benefit over simple anticoagulation. To the best of our knowledge, there is no other recent institutional case series available comparing thrombolysis with anticoagulation in the initial management of acute primary UEDVT.

On the other hand, thrombolysis may be associated with harmful effects. In a series of 30 patients with UEDVT, major bleeding was recorded in three patients (10%). In another series of 16 patients who underwent ultrasound-accelerated catheter-directed thrombolysis for UEDVT, two patients had gastrointestinal bleeding.

Some of the results of the aforementioned studies are very similar to the findings of the ATTRACT trial. Due to the limited data from studies regarding the management of UEDVT, recommendations on selected topics are usually from extrapolation of studies from DVT in the lower extremities. It has been shown that, during the course of anticoagulation, patients with UEDVT have a similar outcome with those with lower extremity DVT. It seems that thrombolysis not only in proximal lower extremity DVT, but also in UEDVT should be used with caution in carefully selected patients until Level I evidence indicates the validity of this approach in the management of the full spectrum of patients with UEDVT. This cautious approach is also adopted by the 2012 American College of Chest Physicians guideline that has averted clinicians from performing routine thrombolysis and should be restricted to very few cases, if any. Our reappraisal of the most recent literature suggests that this guideline is still valid.

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**REFERENCES**


