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NOVEL SAFETY EFFICACY MANAGEMENT STUDY IN ACUTE DVT AND DVT RECURRENCE TO REDUCE POST-THROMBOPHLEBITIC SEQUELAE IN PRIMARY PUBLIC HEALTH CARE MEDICINE

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The requirement for a safe diagnostic strategy of deep vein thrombosis (DVT) should reach an overall objective post incidence of venous thromboembolism (VTE) of less than 1% during 3 months follow-up. The combined use of complete compression ultrasonography (CCUS) followed by D-dimer testing and clinical score assessment safely rule in and out DVT. A negative ELISA VIDAS safely excludes DVT and VTE with a net present value (NPV) between 99 and 100% and a low clinical score of zero. Rapid and complete recanalization within 3 to 6 months and no reflux in one third of post-DVT patients is associated with a low or no risk of post-thrombophlebitic sequelae (PTS) obviating the need of medical elastic compression stockings (MECS) 6 months after DVT. Delayed incomplete recanalization after 3 to 9 months due to valve destruction has been documented in two third of post-DVT patients. Absence of residual vein thrombosis (RVT=partial recanalization) at 3 months post-DVT and no reflux is predicted to be associated with no recurrence of DVT (1.2%) during follow-up obviating the need of wearing medical elastic stockings and anticoagulation at 3 to 4 months post-DVT. The presence of RVT or reflux at 3 months post-DVT is complicated by a high risk of DVT recurrence of about 30% and associated with induction and aggravation of symptomatic PTS indicating the compelling need to resume and extend anticoagulation with direct oral anticoagulant (DOAC). The Lower extremity thrombosis (LET) extension classification will identify patients with LET class I distal deep vein thrombosis (DVT) versus proximal LET class II popliteal/femoral and LET class III iliofemoral DVT at time of acute DVT diagnosis. The higher the LET class the higher the risk of DVT recurrence and PTS. Delayed recanalization of acute DVT in LET class II and III patients at increased risk for DVT recurrence do benefit from extended anticoagulation with direct oral anticoagulation (DOAC). All cases of acute distal and proximal DVT are treated with DOAC and medical elastic stockings for 3 to 6 months.

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A novel clinical concept for the prospective assessment of DVT recurrence risk and the post-thrombotic syndrome (PTS) by biological markers like D-dimer and serial CUS in routine clinical practice at 1, 3 to 6 months and at one year post-DVT will separate post-DVT patients in 4 different treatment groups. Group 1 showing rapid complete recanalization within 3 months, no reflux at 6 months post-DVT, and no PTS for which anticoagulation and MECS can safely be discontinued at 4 to 6 months post-DVT. Group 2 showing delayed recanalization, minor to moderate PTS with reflux or insufficiency of the deep venous system when wearing MECS for which extended DOAC according to established prediction rules until re-evaluation at 1 year post-DVT. Groups 3 and 4 with PTS and/or reflux due to incomplete recanalization or obstruction at 6 to 12 months post-DVT are candidates for long-term DOAC and MECS for at least 2 years or even longer to prevent DVT recurrence to prevent progression of PTS. A large scale prospective safety and efficacy study is warranted to prove and fine-tune this concept.

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