QUESTION

Should DOACs, LMWH, UFH, Fondaparinux, Argatroban, or Bivalirudin at Intermediate-intensity vs. Prophylactic-intensity be used for Patients

Is the problem a priority?

ST-elevation myocardial infarction follow-up: range 5 days to 30 days	248 (2 RCTs)[1,2]	Very low[h]	OR 0.32 (0.03 to 3.16)	

				21 per 1,000[f]	0 fewer per 1,000 (20 fewer to 239 more)
Multiple organ failure follow-up: mean 30 days	182 (1 RCT)[2]	Very low[g]	OR 1.53 (0.25 to 9.40)		

				141 per 1,000	1 more per 1,000 (93 fewer to 208 more)

1. Perepu, U. S., Chambers, I., Wahab, A., Ten Eyck, P., Wu, C., Dayal, S., Sutamtewagul, G., Bailey, S. R., Rosenstein, L. J., Lentz, S. R.. Standard prophylactic versus intermediate dose enoxaparin in adults with severe COVID-19: A multi-center, open-label, randomized controlled trial. J Thromb Haemost; Sep 2021.
2. Morici, N., Podda, G., Birocchi, S., Bonacchini, L., Merli, M., Trezzi, M., Massaini, G., Agostinis, M., Carioti, G., Saverio Serino, F., Gazzaniga, G., Barberis, D., Antolini, L., Grazia Valsecchi, M., Cattaneo, M.. Enoxaparin for thromboprophylaxis in hospitalized COVID-19 patients: The X-COVID-19 Randomized Trial. Eur J Clin Invest; May 2022.

a. Follow up durations from the observational studies informing the baseline risk
b. The 95% CI of the absolute effect includes both large harm and small benefit
c. Both trials were open-label, and one trial had unblinded outcome assessors, but unlikely to have affected this outcome
d. Lower bound of the 95% CI for the pooled mean event rate among baseline risk studies
e. Pooled mean event rate among baseline risk studies
f. Upper bound of the 95% CI for the pooled mean event rate among baseline risk studies
g. The 95% CI of the absolute effect includes both trivial benefit and large harm
h. Both trials were open-label, and one trial had unblinded outcome assessors
i. The 95% CI of the absolute effect includes both moderate benefit and large harm

Certainty of evidence

What is the overall certainty of the evidence of effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
● Very low ○ Low ○ Moderate ○ High ○ No included studies	Overall certainty based on the lowest certainty of any critical outcome according to GRADE.	The certainty of the evidence for all critical outcomes was very low.

Values

Is there important uncertainty about or variability in how much people value the main outcomes?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Important uncertainty or variability ● Possibly important uncertainty or variability ○ Probably no important uncertainty or variability ○ No important uncertainty or variability	The relative importance of the outcomes reported in the literature is indicated by utility values on a scale of 0 to 1, where 0 = death and 1.0 = full health. The utility values reflect the relative value placed on a given health state characterized by that condition, with higher values reflecting less impairment and lower values reflecting greater impact on life. A systematic review of observational studies (11) suggests that affected people place a moderate relative value on avoiding pulmonary embolism, DVT, major bleeding and a low relative value (indicating great impairment on outcomes such as intracranial bleeds). There is moderate to high certainty in these findings. The evidence suggests that there is variability around these values or relative importance that the affected population places on these outcomes but this may be a result of the way they are measured. Below is the research evidence as synthesized. Survey results with ASH VTE guideline panels using visual analogue scales showed lower values t	

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Favors the comparison ● Probably favors the comparison ○ Does not favor either the intervention or the comparison ○ Probably favors the intervention ○ Favors the intervention ○ Varies ○ Don't know		The panel judged that the large potential harms outweigh the

SUMMARY OF JUDGEMENTS

CRITERIA	IMPORTA() 541

2. Spyropoulos AC, Anderson FA Jr, Fitzgerald G, et al. IMPROVE Investigators. Predictive and associative models to identify hospitalized medical patients at risk for VTE. *Chest* 2011; 140: 706-714.

3. Decousus H, Tapson VF, Bergmann JF, et al. Factors at admission associated with bleeding risk in medical patients: findings from the IMPROVE investigators. *Chest* 2011; 139: 69-79.

Monitoring and evaluation

Patients receiving prophylactic-intensity, intermediate-intensity, or therapeutic-intensity anticoagulation therapy require regular reassessment of thrombotic and bleeding risk. It is important to frequently assess and optimize factors that affect the safety of anticoagulation therapy (e.g., renal function, thrombocytopenia, blood pressure control, minimizing concomitant antiplatelet therapy). Frequent clinical assessments for signs and symptoms of thromboembolism and bleeding are also necessary in acutely ill patients.

The panel did not specifically address the use of anticoagulant monitoring with anti-Xa levels, or the use of screening lower extremity ultrasonography in asymptomatic patients. However, these measures are not routinely recommende

REFERENCES SUMMARY

1. Locadia, M., Bossuyt, P. M., Stalmeier, P. F., Sprangers, M. A., van Dongen, C. J., Middeldorp, S., Bank, I., van der Meer, J., Hamulyak, K., Prins, M. H.. Treatment of venous thromboembolism with vitamin K antagonists: patients' health state valuations and treatment preferences. Thromb Haemost; Dec 2004.
2. Hogg, K., Kimpton, M., Carrier, M., Coyle, D., Forgie, M., Wells, P.. Estimating quality of life in acute venous thrombosis. JAMA Intern Med; Jun 24 2013.
3. Lenert, L. A., Soetikno, R. M.. Automated computer interviews to elicit utilities: potential applications in the treatment of deep venous thrombosis. J Am Med Inform Assoc; Jan-Feb 1997.
4. O'Meara, J. J.,3rd, McNutt, R. A., Evans, A. T., Moore, S. W., Downs, S. M.. A decision analysis of streptokinase plus heparin as compared with heparin alone for deep-vein thrombosis. N Engl J Med; Jun 30 1994.
5. Marchetti, M., Pistorio, A., Barone, M., Serafini, S., Barosi, G.. Low-molecular-weight heparin versus warfarin for secondary prophylaxis of venous thromboembolism: a cost-