

## Prophylactic Anticoagulation in Membranous Nephropathy: A Decision Analysis

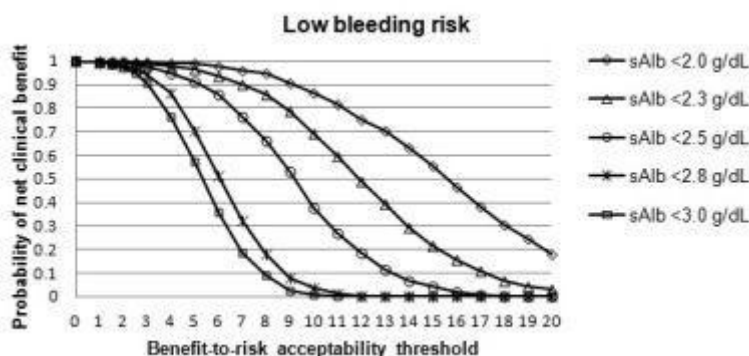
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**BACKGROUND:** In membranous nephropathy, the risk of venous thromboembolic events (VTE) is inversely correlated to serum albumin level (sAlb). This study estimates the benefit of prophylactic anticoagulation (VTEs prevented) relative to the risk (bleeds incurred) by sAlb level.

**METHODS:** A hybrid Markov-decision tree model was constructed to compare anticoagulation to observation. The risk of VTE was obtained from a cohort of 539 patients. The categorized (low, intermediate, high) risk estimates of bleeding were obtained from the ATRIA study (J Am Col Cardiol 58:395). The benefit-to-risk ratios were calculated by bleeding risk category. We used probabilistic sensitivity analyses to estimate effects of parameter uncertainty.

**RESULTS:** For patients at low bleeding risk, the base-case model predicts a benefit-to-risk ratio of 4.5:1 and 13:1 for sAlb <3.0 g/dL and <2.0 g/dL respectively. With intermediate or high bleeding risk, the ratios are 3.9:1 and 1.8:1 for sAlb < 2.0 g/dL. In probabilistic sensitivity analysis, patients at intermediate or high risk are unlikely to benefit from anticoagulation whereas those at low risk are likely to benefit with a benefit-to-risk ratio of 5:1 and 10:1 for sAlb <2.5 g/dL and <2.0g/dL.



**CONCLUSIONS:** The decision for anticoagulation should begin with assessing a patient's bleeding risk. We provide a tool to estimate the likelihood of benefit based on sAlb level and acceptable benefit-to-risk ratio.