



Validation of a Method for Predicting Risk of Poor Outcome in Patients With Pulmonary Thromboembolism

To the Editor: Determining the risk of complications in patients with pulmonary thromboembolism is extremely important. Wicki et al¹ described a simple method for predicting the risk of poor outcome in the first 3 months in such patients. In this study, we aimed to determine the validity of this method in our series of patients with pulmonary thromboembolism.

The method for predicting the risk of poor outcome in patients with pulmonary thromboembolism described by Wicki et al¹ includes 6 variables, each with a score: cancer (2 points), systolic blood pressure below 100 mm Hg (2 points), prior deep vein thrombosis (1 point), deep vein thrombosis shown in a Doppler ultrasound examination of the veins in the leg (1 point), baseline PaO₂ below 60 mm Hg (1 point), and presence of heart failure (1 point). Poor outcome was defined as the appearance of severe bleeding, recurrent thromboembolism, and/or death in the first 3 months. Patients with a score of 2 or less were considered to be at low risk of poor outcome and those with a score of greater than 2 were considered to be at high risk.

To validate this method, we used the data from an observational study of 40 consecutive outpatients diagnosed with pulmonary thromboembolism using objective methods, in a primary care hospital in a rural area of Extremadura, Spain. All patients were scheduled for follow-up and anticoagulant treatment of at least 3 months. The mean age of the patients was 75.2 years (range, 35-94) and 24 (60%) were women. Active cancer was detected in 7 patients (17.5%). All patients received treatment with low-molecular-weight heparin in the acute phase. There were 2 deaths in the acute phase. Over the long term, 33 patients were treated with acenocoumarol and 5 with low-molecular-weight heparin. A total of 11 patients (27.5%) had a poor outcome: 9 died, 4 presented recurrent thromboembolism, and 2 suffered severe bleeding. Of a total of 27 patients considered low risk according to the method studied, 2 (7.4%) had a poor outcome and 1 (3.7%) died. Of the 13 patients considered high risk, 9 (69.2%) presented a poor outcome and 8 (61.5%) died. The negative predictive value of a score of 2 or less for a poor outcome was 92.6%. The negative predictive value of a score of 2 or less for death was 96.3%.

The method of Wicki et al¹ was recently validated in a retrospective study that found a

negative predictive value for a poor outcome of 95%.² The results of our study are similar to those obtained in the 2 prior studies.^{1,2} The most notable difference was that only approximately 10% of patients in these 2 studies showed a poor outcome in the first 3 months, whereas in our study, more than a quarter of patients had a poor outcome in the same period, although the average age of our patients was considerably higher, by about 10 years.^{1,2} Our study would appear to confirm the validity of the method for predicting the risk of poor outcome in patients with pulmonary thromboembolism. Our series is small, however, and other studies—prospective if possible—with a larger sample should be performed to confirm this observation. The simplicity of this method means it would be easy to apply in clinical practice and would allow decision-making based on the risk of poor outcome.

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