Outcome studies of pulmonary embolism versus accuracy: They do not equate

Paul D. Stein¹, Afzaal Beemath¹, Lawrence R. Goodman², Charles A. Hales³, Russell D. Hull⁴, H. Dirk Sostman⁵, John G. Weg⁶

¹Department of Research, St. Joseph Mercy Oakland Hospital, Pontiac, Michigan; ²Department of Medicine, Wayne State University, Detroit, Michigan; ³Department of Radiology, Medical College of Wisconsin, Milwaukee, Wisconsin; ⁴Department of Medicine, Massachusetts General Hospital, and Harvard Medical School, Boston, Massachusetts; ⁵Department of Medicine, University of Calgary, Calgary, Alberta, Canada; ⁶Office of the Dean, Weill Cornell Medical College and The Methodist Hospital, Houston, Texas; ⁷Department of Medicine, University of Michigan, Ann Arbor, Michigan, USA

In the prior era of late diagnoses of PE based on clinical findings, Hermann et al. reported a 36% frequency of fatal recurrent PE (5). There was, in addition, a 21% frequency of non-fatal recurrent PE among untreated patients with clinically diagnosed PE (5). The PE was severe in these patients. Mortality from the initial PE was 37% (5).

With early diagnosis, the risk of recurrent PE is lower. In PIOPED I, 20 patients did not receive treatment because the diagnosis was not established until later when central readers identified the PE on pulmonary angiograms (6). Among these 20 untreated patients, fatal PE occurred in one (5%), and one patient had a non-fatal PE on follow-up (6). Therefore, 10% of patients with untreated mostly mild PE suffered a PE on follow-up.

The rate of recurrence of PE from data on the outcome of patients with suspected PE in whom treatment was withheld following non-diagnostic ventilation/perfusion lung scans and normal serial non-invasive leg tests can be calculated. For example, among 711 patients with suspected PE and nondiagnostic ventilation/perfusion lung scans evaluated by Hull et al., three-month outcome of untreated patients with negative serial impedance plethysmography showed PE in four of 627 (0.6%) (7). Among 711 patients with non-diagnostic V/Q scans, 22% (156 patients) would have had PE based on results of PIOPED I (8). Since 84 patients were identified with impedance plethysmography and treated, the group of 627 who were followed with no anticoagulant therapy would have included 74 patients with PE. On follow-up, four of 74 (5.4%) showed recurrent PE.

Similar calculations and similar results are shown in data of Wells et al. (9). Among 702 patients with suspected PE, non-

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