BACKGROUND:

Pulmonary embolism (PE) is a common and potentially life-threatening disorder. Patients with PE often have nonspecific symptoms, and the diagnosis is often delayed.

AIM:

The aim of our study was to investigate the role of signal peptide-complement C1r/C1s, Uegf, and Bmp1-epidermal growth factor domain-containing protein 1 (SCUBE1) used in the diagnosis of PE.

METHODS:

The study was designed prospectively. A total of 57 patients who were admitted to emergency service with clinically suspected PE were included in the study. The patients diagnosed with PE were defined as PE group (n = 32), and the patients with undetectable embolism on computerized tomographic pulmonary angiography were defined as non-PE group (n = 25). Twenty-five age- and sex-matched healthy cases were chosen for the study. Routine biochemical analysis, complete blood count, D-dimer, SCUBE1, and arterial blood gas analysis were performed early after admission.

RESULTS:

Mean SCUBE1 levels were higher in the PE group (0.90 ng/mL) than in the non-PE (0.38 ng/mL) and control groups (0.47 ng/mL) (P < 0.01). A cutoff point of 0.49 ng/mL for SCUBE1 indicated 100% sensitivity and 64% specificity in patients with PE. Mean D-dimer levels were not different between PE and non-PE groups (P = 0.591). A multivariable logistic regression analysis (with dichotomous PE groups as the response variable; age, gender, chest pain, syncope, diabetes mellitus, chronic obstructive pulmonary disease, hypertension, D-dimer, neutrophil-lymphocytes ratio, and SCUBE1 variables as predictors) showed that the significant and independent predictors of PE diagnosis were SCUBE1 and chest pain.

CONCLUSION:

This study suggests that serum SCUBE1 measurement might be used as a diagnostic biomarker in PE.