척수재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:20-10:24 Room G(3F)

P 1-30

Absolute value of D-dimer for predicting pulmonary embolism in patients with spinal cord injury

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Introduction

It is well known that the occurrence of deep vein thrombosis and pulmonary embolism is common in patients with spinal cord injury. The sensitivity and negative predictive value of D-dimer are high, but the specificity and positive predictive value are low. And the absolute value of D-dimer is of low importance. However, in actual clinical practice, the absolute value of D-dimer is higher in patients with pulmonary embolism confirmed by embolism CT. The aim of this study was to determine the absolute value of D-dimer to predict pulmonary embolism in patients with spinal cord injury.

Method

We reviewed patients who visited the Seoul National University Bundang Hospital for outpatient or inpatients from April, 2003 to June, 2019. Among them, we recruited 32 patients diagnosed with spinal cord injury in MRI and who underwent embolism CT and D-dimer blood test. Student's t-test was used to detect whether there is a significant difference of d-dimer between two groups. (Embolism-positive group and embolism negative group) Multivariate logistic regression analyses were performed to detect the risk factors for pulmonary embolism. Receiver operator characteristic (ROC) curve analysis was done to obtain the cut off value of d-dimer.

Results

Pulmonary embolism was detected in 12 patients. (37.5% of patients studied).
In the t-test, there was a significant difference in the mean of d-dimer between the two groups. (p=0.024) Multivariate logistic regression analyses revealed that d-dimer was significantly associated with pulmonary embolism. (p=0.046, OR=1.644; 95% confidence interval [CI], 1.009-2.678) ROC curve analysis demonstrated that at the d-dimer value of 3.355, the sensitivity for detecting pulmonary embolism was 75% and the specificity was 55%.

Conclusion

This study showed that d-dimer was significantly associated with pulmonary embolism. Although the absolute value of the d-dimer for CT imaging cannot be determined, the high

tendency of d-dimer in patients with pulmonary embolism may give clues to clinical situation. Further studies involving more patients can be expected.

Table 1. t-test between two groups

	Embolism negative (n = 20)	Embolism positive (n = 12)	P-value*
D-dimer	3.72	8.64	0.024

P value by *independent T-test

Table 2. Logistic regression

	P-value	Adjusted OR† (95% CI)
Sex	0.083	0.001 (0.000-2.458)
Age	0.784	0.978 (0.832-1.149)
Height	0.090	3.052 (0.840-11.088)
Body weight	0.128	0.289 (0.058-1.428)
BMI	0.144	26.204 (0.328-2096.573)
D-dimer	0.046	1.644 (1.009-2.678)
Fracture	0.969	1.079 (0.023-50.622)
Surgical intervention	0.634	0.442 (0.015-12.769)
Infection	0.090	79.082 (0.054-12407.660)

OR, odds ratio; CI, confidence interval

†Adjusted odds ratios by multivariate logistic regression analysis

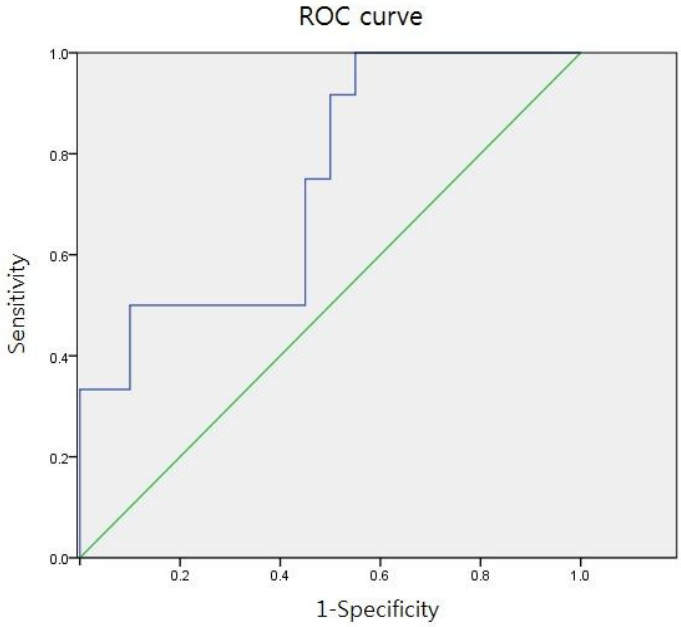

Figure 1. ROC curve