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Relation between Pulmonary function and Ischemic stroke lesion

Ju Hyun Kim[2*], Jae Won Huh[1], Hyun Min Oh[1], Dae Won Gwak[2], Chul Hyun Kim[1], Tae Du Jung[2†]

Kyungpook National University Hospital, Department of Rehabilitation Medicine[1], Kyungpook National University Chilgok Hospital, Department of Rehabilitation Medicine[2]

Objective
Pneumonia is major cause of post stroke morbidity. And it is important to predict and minimize the risk for pneumonia in stroke patients. Both supra-tentorial and infra-tentorial lesions are all likely to affect the respiratory function of stroke patients. Respiratory function can be impaired in infratentorial stroke patients by involvement of the BÖtzinger complex. In supratentorial stroke, respiratory muscle strength can be weakened. For this reason, Respiratory function would depend on the stroke lesion, so we conducted pulmonary function test(PFT) to evaluate difference in pulmonary function between two different lesions, during in-patient rehabilitation following stroke.

Methods
A total of 26 stroke patients who went through in-patient rehabilitation at Kyung-book National University Hospital were selected for this study. Patients were included if they had a clinical diagnosis of ischemic stroke. No distinction was made of age, sex, race. PFT includes FVC, FEV1, FEV1/FVC.

Results
We compared pulmonary function and performed a Mann-Whitney analysis. Results showed that there was overall reduction of respiratory function in stroke patients, regardless of stroke lesion. And there was no relation between pulmonary function and the lesion affected side is whether supratentorial or infratentorial(Table 1).

Conclusion
No significant correlation was found between PFT Result and stroke lesion. It would be helpful to compare peak cough flow which is concerned with expectoration ability for preventing stroke-complication like pneumonia.

Table 1. demonstration there was no relation between pulmonary function and the lesion affected side is whether supratentorial or infratentorial

	Age	FVC ref	FEV1 ref	FEV1/FVC	PEF ref	ERV
Mann-Whitney U	82.000	82.000	80.500	80.000	64.500	34.000
Wilcoxon W	148.000	148.000	200.500	146.000	109.500	125.000
Z	-.026	-.026	-.104	-.130	-.179	-.439
Asymp. Sig. (2-tailed)	.979	.979	.917	.897	.858	.661
Exact Sig. [2*(1-tailed Sig.)]	1.000	1.000	.919	.919	.861	.701