

The ten year outcomes of CTEPH patients in a university hospital

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Background: Chronic thromboembolic pulmonary hypertension (CTEPH) is one of the leading cause of pulmonary hypertension (PH). We aimed to investigate the outcome of CTEPH patients were followed up at PH outpatient department of our institution.

Methods: We screened medical records of PH patients were followed up at our university hospital between 2009 and 2018. 29 patients with a diagnosis of CTEPH were included in the study.

Results: The study group consisted of 16 female (55.2%) and 13 male (44.8%). The mean age was 59.5±13.7 years old. Median follow up duration was 44 month (1-113 month). Most of the patients (22/29, 75.8%) were initially in NYHA FC III or IV. Mean TAPSE was 16±4 mm on TTE. The mean initial 6MWD was 321.4±119.9 meters, and it increased at follow up to 356.1±132.8 meters. On RHC, the mean PVR was 8.6±5.9 WU, the mean PCWP was 14.3±5.6 mmHg, mean RAP was 15.1±5.7 mmHg and mean cardiac output was 4.8±1.5 L/per minute. On lab examination the median initial NT-proBNP was 2468 pg/ml (46.1 - 20.564 pg/ml), the median final NT-proBNP was 2382 pg/ml (67.0 - 23.368 pg/ml). Pulmonary endarterectomy was performed in seventeen of 29 patients (58.6%). Twelve patients were not operated.

The survival rate at 10 years follow up was 58.6%. Seven of 12 patients who were not operated died (58.3%) Out of 17 patients who were operated four died intra-operatively and only one who had residual PH after pulmonary endarterectomy died 45 months after surgery due to respiratory failure. In multivariate analysis the association was consistent for age, lower final 6MWD, higher final NT-proBNP and presence of final NYHA FC III or IV.

Conclusion: The prognosis of CTEPH is getting better with successful endarterectomy procedure. Age, lower functional capacity (NYHA FC III, IV and low 6MWD) and high NT-proBNP are the predictors of mortality.

Table 1.

Parameter	
Age (years old)	59.5±13.7
Sex (%)	16 Female (55.2%) 13 Male (44.8%)

Median FU (month)	44 (1-113)
Initial NYHA FC III/IV (%)	75.8
Initial NYHA FC III/IV (%)	41.4
TTE	mean sPAP 66.1±26.7 mmHg TAPSE 1.6±0.4 mm
Initial 6MWD (meter)	321.4±119.9
Final 6MWD (meter)	356.1±132.8
RHC	Mean sPAP 79.4±22.9 mmHg Mean dPAP 35.1±13.2 mmHg Mean mPAP 50.9±16.1 mmHg Mean RA 15.1±5.7 mmHg Mean PCWP 14.3±5.6 mmHg Mean CO 4.8±1.5 L/per minute Mean PVR 8.6±5.9 WU
Initial NT-proBNP (pg/ml)	2468 (46.1 - 20.564)
Final NT-proBNP (pg/ml)	2382 (67.0 - 23.368)
Pulmonary endarterectomy	17/29 (58.6%)
Medical therapy	12/29 (41.4%)
10 year survival (%)	58.6

Characteristics of study group.