Sex-specific differences in the clinical presentation, surgical complications, and course of chronic thromboembolic pulmonary hypertension

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Topic(s):
Cardiovascular Disease in Women

Citation:
The CTribut registry is supported by a research grant from Actelion Pharmaceuticals Ltd.

Background. Women are more susceptible to develop several forms of pulmonary hypertension, but they may have better survival rates than men. Sparse data are available concerning sex-specific differences in chronic thromboembolic pulmonary hypertension (CTEPH).

Purpose and Methods. We investigated sex-specific differences in the clinical presentation of CTEPH, functional parameters, exposure to pulmonary endarterectomy (PEA), and survival.

Results. Women constituted half of the study population (N=679 treatment-naïve patients from the European CTEPH registry) and were characterized by a lower prevalence of some cardiovascular risk factors (e.g. prior acute coronary syndrome, smoking habit, chronic obstructive pulmonary disease), but more prevalent obesity, cancer, and thyroid diseases. Median age was 62 (IQR 50-73) years in women and 63 (IQR 53-70) in men. Women underwent PEA less often than men (54% vs 65%; Figure 1, Panel A) and were exposed to fewer additional cardiac procedures, notably coronary artery bypass graft surgery (0.5% vs. 9.5%). The prevalence of specific reasons for not being operated, including the patient’s refusal and the proportion of proximal vs. distal lesions, did not differ between sexes. A total of 57 (17.0%) deaths in women and 70 (20.7%) in men were recorded over long-term follow-up. Female sex was positively associated with long-term survival (adjusted Hazard Ratio 0.66; 95% Confidence Interval 0.46-0.94). Short-term mortality was identical in the two groups (Figure 1, Panel B).

Conclusions. Women with CTEPH had a lower prevalence of cardiovascular risk factors and underwent PEA less frequently than men, who, in turn, were more often exposed to additional major cardiac surgery procedures. Women had more favorable long-term survival.
Abstract: P2540
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