INCIDENCE AND PHENOTYPIC PREDICTORS OF ARRHYTHMIAS IN IDIOPATHIC PULMONARY ARTERIAL HYPERTENSION

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Introduction Arrhythmias are common in patients with idiopathic pulmonary arterial hypertension (IPAH) and thought to predict poor outcome. Previous studies have relied on short-term electrocardiographic surveillance to determine arrhythmia incidence, and prospective systematic analysis of arrhythmias in a large cohort of IPAH patients using implantable cardiac monitors (ICMs) is lacking.

Aims Establish the rate of arrhythmias in a prospective cohort of IPAH patients using ICMs.

Determine factors that predict arrhythmia occurrence in IPAH.

Elucidate whether arrhythmia incidence is related to adverse outcomes.

Methods ICMs were implanted into 80 IPAH patients across two UK Pulmonary Hypertension centres to detect cardiac arrhythmias. The rate and type of arrhythmias in IPAH patients was compared to 72 age- and sex-matched patients without IPAH who had ICMs implanted for clinical indications. Arrhythmia and clinical worsening events (defined as death, transplant or hospitalisation due to PAH worsening) were prospectively recorded over the follow-up period, and demographic and clinical characteristics associated with arrhythmia incidence were identified.

Comparisons of data were performed using analysis of variance, $\chi^2$ or Kruskal-Wallis calculations as appropriate. The Cox proportional-hazards multivariate model was used to resolve risk factors independently associated with significant arrhythmia occurrence. A two-tailed probability level of <0.05 was considered significant.

Results Over 186 patient-years follow-up, 79 arrhythmia events were noted in 32 (40%) IPAH patients vs 78 events in 29 (41%) comparator patients. Arrhythmia incidence was related to right atrial (RA) enlargement at time of implant, conduction disease at baseline and symptom reporting.

Arrhythmia incidence was associated with clinical worsening (figure 1).

20% of patients had targeted arrhythmia intervention as a direct consequence of ILR studies. Only right atrial size was independently associated with clinically significant arrhythmia on multivariate analysis.

Conclusion Arrhythmias occur frequently in IPAH patients and are associated with worse outcomes. RA enlargement is independently associated with clinically significant arrhythmia incidence. IPAH should be considered a high-risk group for continuous monitoring studies.

LONG TERM OUTCOME IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION IN THE MULTIMODALITY TREATMENT ERA: A UK NATIONAL COHORT ANALYSIS

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Introduction and Objectives Chronic thromboembolic pulmonary hypertension (CTEPH) treatment is multimodal and includes medical therapy, pulmonary endarterectomy (PEA) and balloon pulmonary angioplasty (BPA). However, there is limited outcome data since all three treatment modalities have been available. We compared the long-term outcome of PEA,