COMPERA 2.0: a refined four-stratum risk assessment model for pulmonary arterial hypertension

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COMPERA 2.0, a four-stratum risk assessment model based on refined cut-off levels for functional class, 6MWD and BNP/NT-proBNP was more sensitive to prognostically significant changes in risk than the original three-stratum model https://bit.ly/3mzPKjA

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Abstract

Background Risk stratification plays an essential role in the management of patients with pulmonary arterial hypertension (PAH). The current European guidelines propose a three-stratum model to categorise risk as low, intermediate or high, based on the expected 1-year mortality. However, with this model, most

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patients are categorised as intermediate risk. We investigated a modified approach based on four risk categories, with intermediate risk subdivided into intermediate-low and intermediate-high risk.

Methods We analysed data from the Comparative, Prospective Registry of Newly Initiated Therapies for Pulmonary Hypertension (COMPERA), a European pulmonary hypertension registry, and calculated risk at diagnosis and first follow-up based on World Health Organization functional class, 6-min walk distance (6MWD) and serum levels of brain natriuretic peptide (BNP) or N-terminal pro-BNP (NT-proBNP), using refined cut-off values. Survival was assessed using Kaplan–Meier analyses, log-rank testing and Cox proportional hazards models.

Results Data from 1655 patients with PAH were analysed. Using the three-stratum model, most patients were classified as intermediate risk (76.0% at baseline and 63.9% at first follow-up). The refined four-stratum risk model yielded a more nuanced separation and predicted long-term survival, especially at follow-up assessment. Changes in risk from baseline to follow-up were observed in 31.1% of the patients with the three-stratum model and in 49.2% with the four-stratum model. These changes, including those between the intermediate-low and intermediate-high strata, were associated with changes in long-term mortality risk.

Conclusions Modified risk stratification using a four-stratum model based on refined cut-off levels for functional class, 6MWD and BNP/NT-proBNP was more sensitive to prognostically relevant changes in risk than the original three-stratum model.