

**Objective** Explore the effects of baseline characteristics on long-term safety/efficacy of avalglucosidase alfa (AVA) in subgroups of patients with late-onset Pompe disease enrolled in COMET (Phase 3; NCT02782741).

**Methods** COMET randomised treatment-naïve patients to AVA (n=51) or alglucosidase alfa (ALG; n=49). After a 49-week primary analysis period, all patients from the AVA-arm continued and 44 patients in the ALG-arm switched to AVA (extended treatment period); total duration 145 Weeks. Subgroups and analyses included: 1) the impact of baseline age ( $\geq 18$ – $< 45$ y,  $\geq 45$ y) on the change in 6-minute walk test (6MWT) distance and upright forced vital capacity (FVC) % predicted, 2) the impact of baseline 6MWT ( $< 403.5$ ,  $\geq 403.5$ m) on the change in FVC % predicted, and 3) the impact of baseline FVC % predicted ( $< 55$ ,  $\geq 55$ %) on the change in 6MWT distance. Mean estimates (95% CI) were calculated from linear mixed effects models stratified by treatment group.

**Results** Overall, the change from baseline to Week 145 was stable or improved for all subgroups analysed for the different outcomes. From baseline to Week 145: younger patients in the AVA-arm had a significant improvement in 6MWT distance (9.8m [4.4,15.1];  $p=0.0004$ ) and AVA-arm patients with baseline FVC  $\geq 55$ % had a significant improvement in 6MWT distance (6.8m [2.4,11.2];  $p=0.0026$ ). Changes over time remained stable in all other subgroups with nonsignificant p values.

**Conclusions** These data indicate that the positive changes seen during treatment with AVA are not driven by any subgroup and demonstrate that AVA is effective in patients with varying baseline characteristics.

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### 3025 RUPTURED CEREBRAL ANEURYSM INPATIENT OUTCOME PREDICTION FOR DISCHARGE PLANNING WITH MACHINE LEARNING: A DERIVATION STUDY

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**Background/Objectives** Predicting unfavourable outcomes with machine learning (ML) such as discharge morbidity and length of stay has significant benefits in all aspects of patient care, from admission to surgical planning, and discharge. Aneurysmal subarachnoid haemorrhage (aSAH) is a condition associated with significant morbidity and mortality, hence identifying risk factors for poor outcomes and discharge planning with ML may yield significant benefit to patient outcomes and hospital efficiency.

**Methodology** Data was extracted from a neurovascular database and electronic medical records at the Royal Adelaide Hospital, SA. Patients admitted for aSAH over two-years were included. Patient and aneurysm characteristics including radiological measures were extracted. Discharge Modified Rankin scale (mRS), length of stay and discharge location were extracted. The data was randomly split into a 75%/25% train-test ratio to train ML models including logistic regression, XGBoost, random forest, and decision-tree models. The primary outcome was the area under the curve (AUC) to determine the model's predictive ability.

**Results** 128 patients were included, with a mean age of 58.5 years (SD 13.1). ML models demonstrated excellent performance in predicting discharge mRS (AUC 0.9), survival to discharge (0.94) and discharge destination (AUC 0.89). World Federation of Neurosurgical Societies grade, Fisher grade and antithrombotic use were strong predictors of poor outcomes.

**Conclusion** ML models were shown to provide great predictive value for discharge planning from several clinical and radiological variables. Implementation of these models may yield significant benefits to patient outcomes and hospital efficiency. Larger multi-center studies are needed to develop more robust ML models.

### 3027 PERFORMANCE OF THE AORTIC DISSECTION DETECTION RISK SCORE IN PATIENTS WITH ACUTE AORTIC SYNDROMES AND STROKE: A RETROSPECTIVE COHORT STUDY

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**Background/Objectives** Acute aortic syndromes (AAS) may have stroke at presentation. The performance of the aortic dissection detection risk score (ADD-RS) in this cohort is uncertain, especially when confounded by dysphasia or language barriers. This study aims to describe the presenting features of patients with AAS and stroke and determine the performance of the ADD-RS in this cohort.

**Methods** An 18-month retrospective cohort study of all CT-Aortograms from two tertiary hospitals was performed. ADD-RS was calculated for each patient identified to have AAS.

**Results** Of the 26 patients identified to have AAS on CT-angiogram, 3 patients had concurrent stroke and AAS. Two had ischaemic strokes secondary to AAS and the third is thought to be due to intracerebral haemorrhage as a result of hypertension accompanying AAS. Two of the three patients suffered in-patient mortality. All AAS patients with stroke presented with some degree of focal neurological deficit. Features suggestive of AAS that were present included abrupt chest pain, severe chest pain, pulse deficits, hypotension, and systolic blood pressure differential. These stroke cases had a median ADD-RS of 2 (range 1 to 2). An ADD-RS threshold of  $\geq 2$  had a false negative rate of 33%.

**Conclusion** These findings demonstrate that an ADD-RS threshold of 2 may miss cases of AAS associated with stroke. The possibility of AAS should be considered by clinicians even when a classical history of chest or back pain is absent, and aortic arch imaging should be reviewed closely on code stroke sequences.

### 3029 LATE ONSET POST THYMECTOMY MYASTHENIA GRAVIS IN PATIENT WITH MALIGNANT THYMOMA WITHOUT MYASTHENIA GRAVIS

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