**IDDF2020-ABS-0053** PREDICTION OF PATIENT MORTALITY RELATED TO THE LIVER DYSFUNCTION IN ICU BASED ON MACHINE LEARNING

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**Background** The traditional mortality prediction method for patients related to the liver dysfunction is to use the APACHE scoring system for mortality prediction. To evaluate the prediction of patient mortality related to the liver dysfunction in ICU based on machine learning.

**Methods** It directly extracts patient data from the MIMIC-III and Philips eICU collaboration databases. For the missing value part of the sample set, we analyzed the significance of sample characteristics Gini, chose to use the median to fill missing values on the MIMIC-III sample set, and use the majority to fill missing values on the eICU sample set. After normalizing the data, principal component analysis (PCA) was used to reduce the dimensionality of the sample set’s sample features, and the effect of the predictive model trained on the sample sets before and after dimension reduction was compared. Next, we used machine learning methods such as random forest, support vector classification, and multi-layer perceptron neural network to achieve liver dysfunction prediction, mortality prediction, and liver dysfunction on the MIMIC-III and eICU sample sets, respectively.

**Results** In the process of analyzing the predictive model, we found that some of the sample features showed higher importance in the prediction of patient mortality by comparing the Gini importance of sample features. At the same time, compared with the original sample set, the anion gap shows a higher Gini importance when predicting the mortality of the liver dysfunction sample set, and the liver dysfunction sample set after removing the anion gap. The rate of death predictions has slipped, suggesting a potential link between anion gaps and the liver dysfunction.

**Conclusions** Compared with the original sample set, the lactic acid shows a higher Gini importance when predicting the mortality of liver dysfunction sample set, and the liver dysfunction sample set after removing the lactic acid. The rate of death predictions has slipped, suggesting a potential link between lactic acid and liver dysfunction.

**IDDF2020-ABS-0058** 48-WEEK SAFETY AND EFFICACY OF SWITCHING TO TENOFOVIR ALAFENAMIDE FUMARATE (TAF) FROM TENOFOVIR DISOPROXIL FUMARATE (TDF) IN CHRONIC HBV ASIAN PATIENTS WITH TDF RISK FACTORS (RF)

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**Background** In a recent Phase 3 study (Study 4018) in HBV patients suppressed on TDF treatment, switching to TAF demonstrated non-inferior efficacy to continued TDF with superior bone and renal safety at Week 48. This study is to assess the safety and efficacy of switching to TAF from TDF in patients of Asian descent with risk factors for TDF toxicity as per current EASL and AASLD guidelines.