by open-label TAF through Year 8. Patients with hepatic decompensation, co-infection with HCV/HDV/HIV, or evidence of HCC were excluded. HCC was assessed at 6 monthly intervals by hepatic ultrasonography beginning after Week 96 and by local standards of care. The standardized incidence ratio (SIR) for HCC was calculated for observed cases relative to predicted cases using the REACH-B model.

Results 1632 patients were followed for up to 4 years; HCC was seen in 16 patients (0.98%; 7 TAF; 9 TDF); median time to onset was 568 days. At baseline HCC patients were older (median age 53 vs 40 y; p<0.001), had lower median HBV DNA (6.2 vs 7.3 $\log_{10}$ IU/mL; p=0.041) and were more likely to have cirrhosis (FibroTest score 0.75; 31% vs 10%; p=0.004). For study patients, the overall SIR was significantly reduced with TAF or TDF treatment 0.45 (95% CI 0.278 -0.740) (table 1). HCC incidence was significantly reduced (SIR 0.42, 95% CI 0.23 to 0.75) in noncirrhotic patients (n=11 vs 26.5 predicted), but not for cirrhotic patients (n=5 vs 8.1 predicted). The SIR was significantly reduced in noncirrhotic patients receiving TAF (n=5), but not in those with TDF (n=6).

Conclusions In CHB patients treated with TAF or TDF for up to 4 years, HCC incidence was reduced, particularly in noncirrhotic patients. Additional follow up is needed to further characterize the impact of longer-term treatment on HCC risk reduction.

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Background Using MIMIC-III database to establish a machine learning method to predict the risk prediction model of mortality in patients with acute hepatic failure, assisting clinicians in clinical decision making.

Methods We collected the demographics, physiological and biochemical parameters of the patients 24 hours before admission, and the variability and dynamic characteristics contained in the target patient as explanatory variables. In-hospital mortality was used as an outcome variable. Excellent machine learning algorithms such as random forest, xgboost, etc. were used to establish classification models to predict the severity of the acute hepatic failure.

Results The proportion of diseases of different systems changing with age was obtained, and the characteristics of the disease spectrum in MIMIC-III database were explored and interpreted. In 1,037 patients with acute hepatic failure, the optimal AUC of prediction models established using random forest and xgboost machine learning algorithms reached 0.88 [0.86, 0.90], which outperformed traditional SOFA and SAPS clinical scores.

Conclusions The performance of the model is better than the traditional clinically used scores. It can help clinicians to identify patients' risk of deterioration and death early. Clinical decision-making provides supports and can be used as a reference for developing next-generation disease severity scores. The application of analytics based on big data in the medical field provides us with more reliable technical means for understanding the development process, early diagnosis, and clinical decision support.

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Background Transcatheter arterial chemoembolization (TACE) combined with ablation has been widely used for treating unresectable hepatocellular carcinoma (HCC). However, the technique with which TACE should be combined for it to be more effective remains unknown. To evaluate the efficacy and
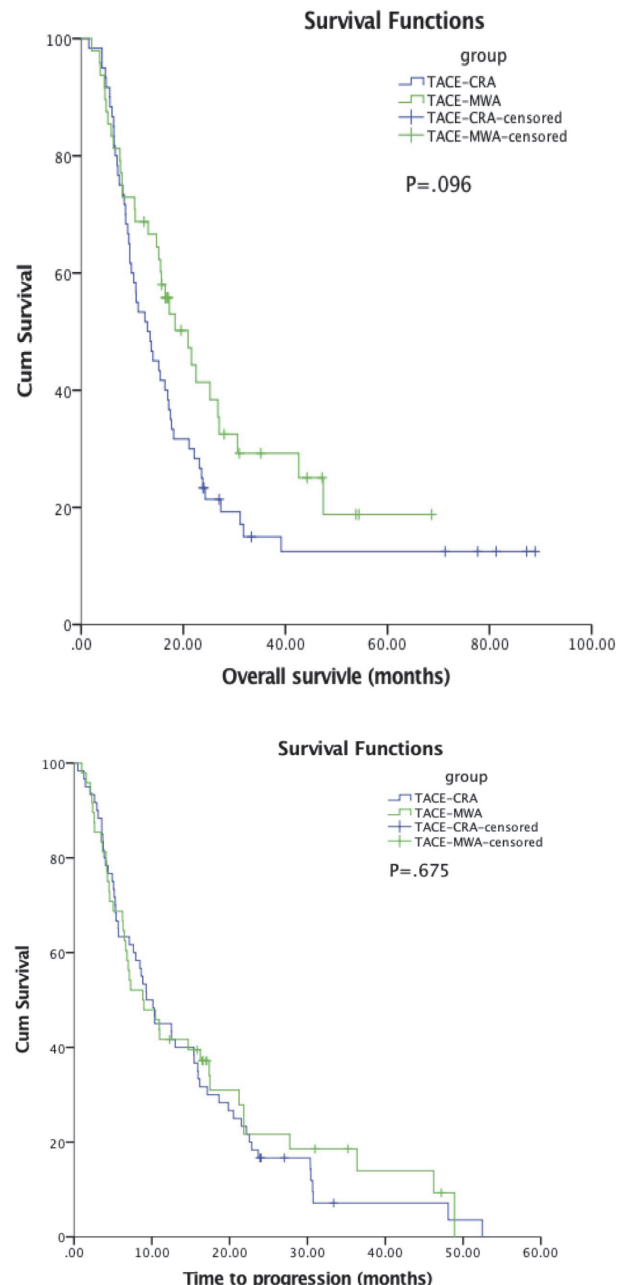
Abstract IDDF2020-ABS-0063 Figure 1 Kaplan-Meier curves of OS & TTP

safety of TACE combined with microwave ablation (MWA) versus TACE combined with cryoablation (CRA) in treating unresectable HCC.

Methods From January 2011 to December 2018, 108 patients diagnosed with unresectable HCC were divided into either the TACE-MWA group (n = 48) or TACE-CRA group (n = 60). Overall survival (OS) and time to progression (TTP) were compared between the two groups. Complications were observed. Kaplan-Meier survival curves were constructed and compared using the log-rank test.

Results Baseline characteristics of the two groups were basically balanced. The median OS was 20.9 months (95% CI 14.3–27.6 months) in the TACE-MWA group and 13.0 months (95% CI 8.8–17.1 months) in the TACE-CRA group (P=.096). The median TTP was 8.8 months (95% CI 4.3–13.4 months) in the TACE-MWA group and 9.3 months (95% CI 7.1–11.5 months) in the TACE-CRA group (P=.675) (figure 1). The overall incidence rate of ablation-related complications was lower in the TACE-MWA group than in the TACE-CRA group (66.7% vs. 88.3%, P =.006). Multivariate analysis showed that the presence of portal vein tumor thrombus (PVTT) and the maximum diameter of the intrahepatic tumor were significant prognostic factors for OS and TTP.

Conclusions The efficacy of TACE-MWA and TACE-CRA in the treatment of unresectable HCC was comparable. TACE-MWA was more promising because of a lower complication rate, especially with regard to thrombocytopenia. Further prospective randomized controlled trials are required to validate our findings.

And 3-day regimen seemed to be the shortest duration of postoperative AMP to gain the lowest incidence of postoperative infection. In the subgroup analysis between patients received 0-day and 3-day postoperative AMP, using postoperative AMP for 3 days was an independent protective factor of infection (OR 0.04, 95 per cent c.i. 0.01 to 0.29; P <0.01). IPTW analysis showed consistent results with those of previous analysis (P=0.01).

Conclusions Postoperative AMP is necessary for HCC patients to prevent postoperative infection. Using antibiotics based on the experience of surgeons for 3 days after surgery might be proper.

(Figure 1)

Abstract IDDF2020-ABS-0064 Figure 1 Duration of postoperative antimicrobial prophylaxis (day)

IDDF2020-ABS-0064

THREE-DAY POSTOPERATIVE ANTIMICROBIAL PROPHYLAXIS CAN REDUCE THE INCIDENCE OF POSTOPERATIVE INFECTION IN PRIMARY HEPATOCELLULAR CARCINOMA: A MULTICENTER RETROSPECTIVE STUDY

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Background Postoperative infection in primary hepatocellular carcinoma (HCC) may cause bad consequences, even affect overall survival. But the evidence of using postoperative antimicrobial prophylaxis (AMP) in HCC was not sufficient enough. We aimed to explore the relationship between postoperative AMP and infection after hepatectomy.
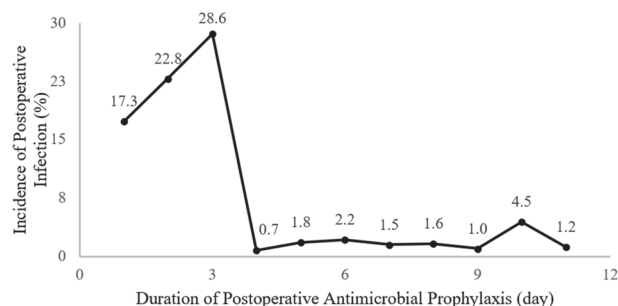
Methods We retrospectively collected 1648 HCC patients who underwent hepatectomy from three tertiary hospitals. The incidences of postoperative infection, including surgical site infection (SSI) and remote site infection (RI) were recorded and calculated. Univariable and multivariable Cox regression analyses were performed to explore risk factors of postoperative infection. Inverse probability of treatment weighting (IPTW) analysis was also performed to reduce the selection bias.

Results The overall infection rate was 9.7% (160/1648), including 8.1% of SSI and 2.3% of RI. Multivariable analysis revealed that the duration of postoperative AMP was negatively related to the incidence of postoperative infection significantly (OR 1.39, 95 per cent c.i. 1.28 to 1.52; P < 0.01).

IDDF2020-ABS-0065

SAFETY AND EFFICACY OF LAPAROSCOPIC MICROWAVE ABLATION AND PORTAL VEIN LIGATION FOR STAGED HEPATECTOMY (LAPS) IN PATIENTS WITH HBV-RELATED HEPATOCELLULAR CARCINOMA

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Background Associating liver partition and portal vein ligation for staged hepatectomy (ALPPS) has high morbidity and mortality. In this study, the safety and efficacy of a modification of ALPPS (laparoscopic microwave ablation and portal vein ligation for staged hepatectomy, LAPS) were compared with the classic ALPPS in patients with HBV-related hepatocellular carcinoma (HCC).

Methods Patients who were diagnosed with HCC and were considered to have insufficient future liver remnant (FLR) were enrolled. In stage I, a microwave ablation (MWA) device was used to cauterise along the planned transection plane to form a coagulum avascular area. When the FLR reached above 40%, hepatectomy was performed in stage II along the coagulum area established previously. After two stages, operative morbidity, mortality, increase in FLR, operative time and blood loss were evaluated.

Results Between April 2013 and September 2019, 7 patients with HBV-related HCC were treated with the LAPS procedure, and 14 patients were treated with the ALPPS procedure. No major complications (Clavien-Dindo IIIa) occurred after 1 stages of the LAPS group, while the ALPPS group were 21.4% (3/14). Completion rate of secondary surgery of the