Hepatol Int (2020) 14 (Suppl 1):S1–S470
https://doi.org/10.1007/s12072-020-10030-4

Abstracts

Acute Liver Failure

Oral Presentations

Abstract # 371

MicroRNA-181c potentially relieved fulminant viral hepatitis by targeting TNF-α

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Objectives: The relationship between circulating microRNAs (miRNAs) and HBV associated acute-on-chronic liver failure (HBV-ACLF) need to be further investigated. The purpose of our study was to identify the aberrant expression of miRNAs in HBV-ACLF and to investigate its potential role during the progression of HBV-ACLF.
Methods: miRNA expression profile by miRNA microarray analysis was performed on Peripheral Blood Mononuclear Cell (PBMC) obtained from patients with mild chronic hepatitis B (CHB) or HBV-ACLF, respectively. Selected unnormal expressed miRNAs were verified in more clinical samples by quantitative real-time PCR (qRT-PCR). A luciferase reporter assay was conducted to confirm direct target of miR-181c. mmu-miR-181c agomir was delivered by tail vein injection into mouse hepatitis virus-3(MHV-3)-infected BALB/cJ mice to evaluate its interference effect in fulminant viral hepatitis mouse model.
Results: 7 kinds of miRNAs were down-regulated and 9 kinds of miRNAs were up-regulated in the PBMC of HBV-ACLF patients compared with that of patients with mild CHB. Among the deregulated miRNAs, the expression of Hsa-miRNA-181c was significantly down-regulated in HBV-ACLF by qRT-PCR. While serum TNF-α significantly increased in HBV-ACLF. A luciferase reporter assay was conducted to confirm TNF-α was verified as a target of miR-181c. miR-181c significantly improved fulminant viral hepatitis mice survival rate.
Conclusion: These data suggested that miR-181c might have potentially therapeutic potential for the treatment of fulminant hepatitis.

Abstract #689

Amphiregulin alleviated conA induced acute liver injury by anti-apoptosis and interrupting neutrophil infiltration

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Introduction and objective: Amphiregulin (Areg) has a well-documented protective role in tissue injury, however, its effects on immune-mediated liver injury are still unclear. Here we used concanavalin A (conA) induced acute liver failure (ALF) model to explore the effects of Areg on immune-mediated acute liver injury.
Methods: C57BL/6 mice were administrated with conA at a dose of 20 mg/kg as the hepatitis mice, part of them received 5 μg Areg as the treated mice. Then survival rates were analyzed within 36 h. After 5 h treatment, liver function, hepatic histology and apoptosis of liver tissue were investigated, cytokines levels, chemokines expressions, neutrophil infiltration and activity in livers were also detected.
Results: Our data showed that Areg treatment obviously increased mouse survival rates, markedly alleviated liver damage and improved liver function. Moreover, Areg administration raised the expression of anti-apoptotic proteins Bcl-2 and Bcl-xL, and down-regulated apoptosis molecule Caspase3 in livers. There were fewer neutrophils infiltration, lower MPO activity and less CX3CL1 expression in livers from the Areg treated mice than those from the untreated mice. Interestingly, these changes were concomitant with significantly enhanced IL-22 levels and IL-22-producing T cells in livers, whereas neutralization of IL-22 in vivo completely abolished the hepatoprotective effects of Areg.
Conclusions: Areg treatment revealed direct protective mechanisms against conA induced acute hepatitis, which provides the potential therapeutic strategy for Areg in immune-mediated acute liver injury.

Abstract #1263

A nomogram to predict mortality in patients with hepatitis E virus-related acute liver failure

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Table 1. Demographic and clinical characteristics

Variables	Total (N=827)	Control (N=448)	Case (N=379)	*P*-value
Median age, year (IQR)	47.0 (41.5-55.0)	47.0 (41.3-55.0)	46.0 (38.0-56.0)	0.134[a]
Gender, n (%)				0.291[b]
Male	501 (60.6)	264 (58.9)	237 (62.5)	
Female	326 (39.4)	184 (41.1)	142 (37.5)	
Cirrhosis, n (%)				
No	532 (90.6)	372 (100.0)	160 (74.4)	<0.001[b]
Yes	55 (9.4)	0 (0)	55 (25.6)	
Fatty liver, n (%)				<0.001[b]
No	421 (71.7)	235 (63.2)	186 (86.5)	
Yes	166 (28.3)	137 (36.8)	29 (13.5)	
ALT (U/L)				
≤40	597 (85.3)	397 (89.0)	200 (78.7)	<0.001[b]
>40	103 (14.7)	49 (11.0)	54 (21.3)	
AST (U/L)				
≤40	631 (90.0)	426 (95.5)	205 (80.4)	<0.001[b]
>40	70 (10.0)	20 (4.5)	50 (19.6)	

Abbreviations: IQR, interquartile range; ALT, alanine transaminase; AST, aspartate transaminase.
[a]*P* value of Mann-Whitney U test among two groups. [b]*P* value of χ^2-test among two groups.

Table 2 Results of association analysis of selected SNPs with the risk of HBV-infected

SNPs (genotype)	Control, n (%) (N=448)	Case, n(%) (N=379)	OR(95%CI)[a]	*P*[a]
rs3809756				
TT	168 (39.4)	117 (31.8)	1.00	--
TC	185 (43.4)	177 (48.1)	1.516 (0.975-2.358)	0.065
CC	73 (17.2)	74 (20.1)	**1.945 (1.129-3.351)**	**0.017**
Dominant model			**1.634 (1.082-2.468)**	**0.020**
Additive model			**1.407 (1.077-1.838)**	**0.012**
rs1071682				
GG	356 (80.7)	316 (84.5)	1.00	--
GA	83 (18.8)	54 (14.4)	0.836 (0.491-1.422)	0.508
AA	2 (0.5)	4 (1.1)	1.414 (0.123-16.302)	0.781
Dominant model			0.850 (0.504-1.435)	0.544
Additive model			0.875 (0.531-1.443)	0.602
rs2277617				
TT	273 (63.0)	224 (60.7)	1.00	--
TG	140 (32.3)	129 (35.0)	1.082 (0.716-1.636)	0.707
GG	20 (4.7)	16 (4.3)	0.652 (0.232-1.834)	0.418
Dominant model			1.024 (0.687-1.525)	0.908
Additive model			0.963 (0.689-1.348)	0.827
rs2289674				
AA	338 (74.8)	312 (72.2)	1.00	--
AG	104 (23.0)	112 (25.9)	1.311 (0.857-2.006)	0.212
GG	10 (2.2)	8 (1.9)	0.506 (0.106-2.426)	0.395
Dominant model			1.232 (0.813-1.866)	0.326
Additive model			1.120 (0.773-1.623)	0.548

Logistic regression analysis, the adjustment factors were age, gender, liver cirrhosis and fatty liver. Abbreviations: OR, odds ratio; CI: confidence interval.

Abstract #1444

Tenofovir (TFV) or tenofovir alafenamide (TAF) concentration in breast milk and infants' cord blood, with tenofovir disoproxil fumarate (TDF) or TAF treatment in pregnancy

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Background: There were no pharmacological data for TAF for prevention of mother-to-child transmission (pMTCT) in human during gestation or breastfeeding period for chronic hepatitis B women.
Objective: We aimed to determine the TAF or TFV concentration in breast milk and cord blood from mother-infant pairs, who received TDF or TAF Treatment from 28 weeks of pregnancy to delivery.
Method: Pregnant women with HBeAg positive and HBV DNA>10^6 IU/ml at 24 weeks of pregnancy was received either TDF or TAF treatment from 28 weeks of pregnancy to delivery to pMTCT. TAF or TFV concentration in breast milk (the median time obtained was 6.5 or 6 h after withdrawal, respectively) and cord blood samples were determined by liquid chromatography tandem mass spectrometry method in TDF or TAF groups, respectively.
Result: 26 mother-infant pairs had been enrolled in each group. TAF concentration was below the lower limit of quantitation (0.5 ng/ml) in all the cord blood and breast milk samples from TAF group, the median TFV concentration was 4.98 (IQR 0.73–7.24) ng/ml and 12.83 (IQR 7.46–29.46) ng/ml in cord blood and breast milk samples from TDF group. No infant had congenital malformation at birth.
Conclusion: This study demonstrated that TAF usage during gestation led to TAF undetectable in breastfeeding milk or cord blood. This result can further support TAF safe in infants during the 3th trimester of pregnancy for pMTCT and no impact on breastfeeding after TAF discontinuation at delivery of infants, but a lager sample size and long-term cohort study is still required.

Abstract #1452

Demographic dan clinical profile of HBV infection detected from pre-endoscopic screening in Makassar-Indonesia

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Introduction: Indonesia has intermediate-prevalence of HBV infection range from 2 to 7%. Endoscopy devices are considered to be a potential risk for transmission of hepatitis among patients and pre-endoscopic screening is one of strategy in our population. Our previous study of prevalence HBV pre-endoscopic screening in Makassar found 8.2% above general data and clinical profile have not been describe.
Objectives: To describe the clinical profile of HBV infection from pre-endoscopic screening.
Methods: This retrospective study using pre-endoscopy screening data from 116 HBsAg+ patients between year 2017–2018. Demography, laboratory (liver biochemistry/serology/virology), radiology and fibroscan data were collected and determine new terminology of HBV infection according to European Association for the Study of the Liver (EASL).
Results: We found 83(71%) male, age ≥ 45 y.o in 74(63.8%) patients with median age 51.5 y.o. and 37(31.9%) works as self-employed. HBeAg negative 78(71.6%) with median of laboratory data: ALT 34U/L, APRI score 0.38, AFP 2.77 ng/ml; mean of HBV-DNA log and fibroscan : 4.38 ± 2.32IU/ml and 8.91 ± 5.35kPa. According to HBV terminology: HBeAg(+)/(−) chronic hepatitis 21(18.1%)/28(24.1%) and HBeAg(+)/(−) chronic infection 48(41.3%)/12(10.3%) respectively; 2(0.2%) chronic hepatitis from 7 patients without serology. Twenty-two (19%) patients have cirrhosis and no hepatocellular carcinoma are found.
Conclusion: Male and HBV chronic infection are majority of clinical profile in this study with 1/5 patients already in cirrhosis stage. This study shows the importance of pre-endoscopic screening to determine new patients hepatitis status earlier if screening in primary care unavailable.

Abstract #1464

Knowledge of hepatitis B virus infection and attitudes toward hepatitis B infected persons: a community-based cross-sectional study among general population in semarang, indonesia

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