



The Liver Care Foundation Annual Report April to March 2024-2025



Foreword from Dr. Shiv Kumar Sarin - Founder and Trustee

The liver is one of the most remarkable organs in the human body-working tirelessly, often without recognition, to keep us alive and healthy. Yet, liver health remains one of the most overlooked areas of public awareness and preventive care. Around the world, millions are affected by liver diseases, many of which are preventable through timely diagnosis, lifestyle changes, and education.

The past years have been a testament to what a focused vision can achieve - from large-scale vaccination and screening programs conducted by The Liver Care Foundation, that have protected thousands of children from Hepatitis B, and timely interventions to those at risk of Hepatitis C.

In 2024–2025, the Liver Care Foundation strengthened its reach by collaborating with several NGOs to deliver impactful liver health awareness programs to marginalized and low-income communities. These interactive and educational initiatives focused on increasing knowledge, encouraging preventive action, and empowering people to take charge of their health. For us, these awareness programs are not just events - they are catalysts for change, equipping communities with life-saving knowledge.

Beyond prevention and awareness, we are deeply committed to nurturing the next generation of healthcare professionals. Through financial grants, we have supported young doctors in pursuing higher studies and presenting pioneering research that advances liver health globally.

As we move forward, our mission remains unwavering: to stand as a beacon of awareness, prevention, and support in the fight against liver diseases. None of this would have been possible without the dedication of our team, the trust of the communities we serve, and the steadfast support of our partners and volunteers.

Together, we are not only treating disease - we are building a healthier future. I look forward to the day when liver diseases are prevented before they can take root, and every individual has access to the knowledge and care they deserve.

The Foundation

The Liver Care Foundation was established in 2005 as a non-profit organization with a view to contribute to society by connecting with the public, patient and provider, as a part of its focus towards prevention of liver disease.

Goal

To assist and support Health care related to Liver Diseases.

Vision

To contribute to a world 'Free of Liver Disease'

Mission

1. To advocate and generate public awareness about Liver Health through information, education and communication.
2. To assist those living with liver disease.
3. Strive continuously to bridge the global gap in the field of academics and research, relating to Liver and its diseases.

Core Values

Competence, credibility, commitment, care and cooperation constitute the culture of Liver Care Foundation

Board of Trustees

Dr. Kiran Modi Managing Trustee and member

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Our Key Activities

1. Awareness
2. Assistance
3. Academic Support
4. Organization Values

Awareness

The aim of LCF is to bring about an awakening in the minds of people about the importance of functioning of liver in a human body; and if not taken care of, can create number of diseases related to liver and thus cause complications.

It will also educate people about the treatment of liver disease and the availability of Doctors and Hospitals, treating this malady.

Assistance

LCF will endeavor to provide assistance in terms of financial aid (and through Donors) to those who are willing to donate their liver.

Academic Support

LCF also undertakes to promote upcoming Doctors, financially, who though, are well qualified to attend higher studies or present papers but cannot do so for lack of funds. Each case is considered on merit through a screening body before providing them with any financial assistance.

Organization Values

Competency, Credibility, Commitment, Care and Cooperation constitute the culture of The Liver Care Foundation.

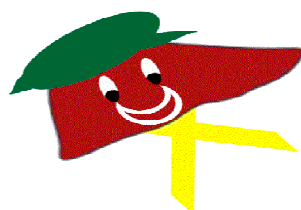
Awareness on Liver Health: A Growing Need

In India, liver health has become increasingly important due to the rising prevalence of liver-related diseases such as non-alcoholic fatty liver disease (NAFLD), hepatitis, cirrhosis, and liver cancer. With changing lifestyles, urbanization, unhealthy diets, sedentary habits, and increasing alcohol consumption, liver diseases are affecting a large section of the population—including young adults and even children.

According to the **World Health Organization** (WHO), liver diseases are among the top 10 causes of death in India, with conditions such as hepatitis B and C, non-alcoholic fatty liver disease (NAFLD), and liver cirrhosis increasingly affecting both urban and rural populations. . A report by the Indian Council of Medical Research (ICMR) indicated that liver cirrhosis alone accounted for over **200,000 deaths annually** in the country. Despite the high disease burden, a 2022 survey by the Institute of Liver and Biliary Sciences (**ILBS**) revealed that **over 70% of respondents** were unaware of the symptoms or preventive measures related to liver diseases.

A 2023 study by the All India Institute of Medical Sciences (AIIMS) revealed that **38% of Indians** suffer from non-alcoholic fatty liver disease (NAFLD), a condition that can progress to severe liver complications if left unaddressed. This prevalence is not confined to adults; approximately **35% of children** are also affected. Promoting liver health through education, vaccination (especially against hepatitis B), balanced diets, reduced alcohol use, and regular screenings can help reduce the growing burden of liver disease in India

Recognizing this urgent public health challenge, The Liver Care Foundation has prioritized liver awareness as a core area of intervention. Through community outreach, educational programs, and collaboration with healthcare professionals, we are working to empower individuals with knowledge and encourage early action. This year, our initiatives have reached urban and rural regions of Delhi, fostering a growing movement toward liver health awareness.



The Liver Care Foundation – Key Activities and Achievements

1. Vaccination and Screening Initiatives

- **Hepatitis B Vaccination Program:**

The Liver Care Foundation (LCF) successfully vaccinated **25,000 children**, aged **6 to 17 years**, from **underprivileged communities in Delhi** against Hepatitis B. This initiative was part of the foundation's commitment to reducing the burden of liver diseases among vulnerable populations.

- **Hepatitis C Screening and Education (2021-2022):**

LCF organized **69 health camps** across **North and North-West Delhi**, reaching out to **5,600 individuals**. Participants were both educated and screened for Hepatitis C, contributing to early detection and prevention efforts.

- **Liver Health Awareness Programs:**

The Liver Care Foundation has conducted a total 517 liver health awareness programs and the total number of participants was 19487. Between 2010 and 2014, we organized 313 programs with 12389 participants, and from 2023 to 2025 we conducted 204 programs with 7089 participants across various part of Delhi.

2. Awareness Campaigns on Liver Health (2024–2025)

In 2024–2025, the Liver Care Foundation expanded its efforts by **collaborating with several NGOs** to deliver impactful liver health awareness programs to **marginalized and low-income communities**. These programs were interactive and educational, focusing on increasing knowledge and encouraging preventive action.

Program Structure:

- **Ice-breaking Session:**

Participants underwent a **pre-test** to assess their existing knowledge on liver health. Key topics covered included:

- Location and function of the liver
- Causes and symptoms of liver diseases

- Understanding of jaundice and types of Hepatitis
- Liver donation awareness and willingness to donate to family
- Community perceptions and desired changes

- **Educational Session:**

Information was delivered using **flip charts and PowerPoint presentations**. The session covered:

- The role and importance of the liver in the human body
- Causes and symptoms of liver diseases
- Harmful effects of alcohol and poor diet on liver health
- Prevention and transmission of viral Hepatitis
- Healthy habits to prevent liver disease, such as:
 - Washing hands regularly
 - Avoiding contaminated food and water
 - Not sharing personal hygiene items like needles, toothbrushes, or razors

Outcomes:

Before these sessions, most participants lacked basic awareness about liver health and had no knowledge of Hepatitis types or the possibility of liver donation. Post-session evaluations showed a marked improvement in awareness, with many participants expressing interest in **getting vaccinated against Hepatitis B**.

LCF successfully conducted the liver awareness programs with the collaboration of NGOs, schools, colleges & truck drivers



Jhuggi, Tirlokpuri 18.10.2024



Shiv Vihar, Loni 28.11.2024



Pratab Nagar 17.2.25

Comparative Overview of Collaborated NGOs (2022–2025)

LCF conducted the liver awareness programs with the collaboration of NGOs .In 2024-2025 we identified 14 new NGOs to expand the scope for liver awareness.

The following chart displays a comparative summary of NGOs that partnered with us over the past three financial years—2022-2023, 2023-2024, and 2024-2025. It highlights a clear and

S.No.	2022-2023	S.No.	2023-2024	S.No.	2024-2025	S.No.	2024-2025
1	Nav Sristi	1	Udayan Care	1	Phia Foundation	13	The leporasy Mission Trust India
2	Jijivisha The Humanity	2	Meem Education and Training Centre	2	Hope Project Charitable Trust	14	PANAM
3	Sewa Delhi	3	Bal Umang Drishya Sansthan (BUDS)	3	Pushp Skil Foundation		
4	Chetnaley	4	Hope Foundation	4	Alina Permartham Foundation		
5	Humanitarian Aid International	5	Sakshi	5	Social organization for Creation of Ignition and ability to Lead		
6	Ramky Foundation	6	Sandesh Communication Group	6	Tarakki Foundation		
7	New Delhi YMCA	7	Jan Sahas Foundation	7	Lokhit Manav Welfare Society		
8	Power Trust	8	Eicher Driver Care Centre	8	Chetna Welfare Society		
9	Aradhya	9	Adhar	9	Astha Foundation		
10	Salam Balak Trust	10	Jan Sandesh	10	Janghat		
		11	Ujjwal Welfare Trust	11	Deepalaya		
		12	Save My Battle	12	Plan India		

- **Trend Observation:**

Each year reflects a broadening network and increasing trust among grassroots organizations in partnering with us. This growth is a testament to our expanding outreach, relevance in community development, and a growing ecosystem of aligned missions.

- **Strategic Value:**

The inclusion of reputed NGOs such as Plan India, Deepalaya, Phia Foundation, The Leprosy Mission Trust India, Jamghat etc. in 2024–2025 adds significant value to our impact footprint and credibility.

The year-on-year increase in NGO collaborations showcases our organization's proactive engagement, enhanced reputation in the development sector, and an effective strategy in building robust partnerships. This growth lays a strong foundation for deeper community impact and wider project implementation in the upcoming years.

Liver Awareness Program April-2024 to March-2025

Delhi Map Covered Area



Awareness Programs on Liver Health (2024–25)

Total Participants	Male	Female	Literate	Illiterate	Age group
3731	505	3226	3575	156	14-65
	13.53%	86.46%	95.81%	4.18%	

During the year 2024–25, the Liver Care Foundation organized a total of **109 awareness programs** focused on liver health. These initiatives reached a combined total of **3,731 participants** across various regions in which 14% (505) were male and 86% (3226) were female. The number of literate people were 3575 (96%) while illiterate were 156 (4%). These programs were aimed at increasing awareness, promoting liver health education, and encouraging preventive care practices among communities, particularly focusing on women and literate individuals who can further disseminate information within their households and social circles.



Ruchi Vihar Rangpuri Pahari -6.12.2024 Noida Sector-62-10.12.2024



Dwarka More-23.1.2024



Ballabh Garh-19.11.2024



Kallyanpuri-18.4.2024



Loni, Ghaziabad-20.7.2024

Liver Awareness Program with College Students

The Liver Care Foundation (LCF) organized a Liver Awareness Session focused on fatty liver disease at the **New Delhi YMCA Education Centre, Connaught Place**, on 22nd May 2024.



The speakers highlighted the vital role of the liver in the human body and discussed key topics such as hepatitis, alcoholic and non-alcoholic fatty liver disease, and the impact of modern lifestyles on liver health. The session also covered common symptoms and prevention strategies. To promote awareness about maintaining a healthy liver, students' height, weight, and waist circumference were measured. This initiative helped emphasize the importance of maintaining a healthy weight relative to height as part of overall liver health.



Listening attentively



Measuring waist size



taking feedback from students

Liver Awareness Session at Janki Devi Memorial College, Karol Bagh

A session on fatty liver disease was conducted by the Liver Care Foundation under the SMILES Project at Janki Devi Memorial College, Karol Bagh, on 30th September 2024. The event was well-organized by Dr. Nirmala Murlidharan, the program In-charge. Our team, along with SMILES Project team from ILBS, actively participated in the session.



The lecture was delivered by Dr. Preeti Pandey , Dr. Priyanka & Ms. Aishwarya. They highlighted the increasing risk of Non-Alcoholic Fatty Liver Disease (NAFLD) among teenagers and young adults. The educator explained that several factors contribute to the development of NAFLD, including a family history of the disease or metabolic syndrome, along with environmental influences such as poor diet, sedentary lifestyle, obesity, diabetes, and hypertension.

Particular emphasis was placed on the dangers of consuming unhealthy and unsafe foods—such as junk food (e.g., pizzas, chaat, vada pav, bhujias, samosas, burgers, frankies, French fries, rolls, and wraps)—as well as frequent consumption of carbonated drinks and lack of physical activity. These were identified as major contributors to the development of NAFLD.

Students pledged to be more mindful of their lifestyle and dietary habits in the future to protect themselves from this preventable disease.



Lecture delivered



Measuring waist & length

Liver Awareness Program in Schools

The Liver Care Foundation (LCF) conducted a Liver Awareness Program and organized a drawing competition at **Government Co-Ed Senior Secondary School, Lajpat Nagar-I**. A total of 50 students, aged between 16 and 17 years, participated in the program.

LCF team and Dr. Smriti, a member of the Empathy Project run by the Institute of Liver and Biliary Sciences (ILBS), were actively involved in the session. They



delivered an informative lecture on alcoholic and non-alcoholic fatty liver diseases. To assess the students' awareness, a pre-test and post-test were conducted, measuring their knowledge on liver health.

Drawing Competition:

Following the educational session, a drawing competition was held on the theme “*Healthy Liver, Healthy India*”. This event was organized in alignment with Hepatitis Day, which is observed annually on December 4th in Delhi.

All 50 students who attended the session also participated in the drawing competition. LCF provided all necessary drawing materials, including drawing sheets, pencils, sharpeners, erasers, scales, and color pencils. Participants were given one hour to complete their artwork, and all submissions were completed within the allotted time.

The competition saw enthusiastic participation and showcased impressive creativity. Trophies were awarded to the 1st, 2nd, and 3rd place winners by Dr. Preeti Pandey and Ms. Anita Kumari, the school's In-Charge.



Prize distribution: 1st, 2nd and 3rd winner

Liver Awareness Program: Suman Vidya Mandir, Bhagirathi Vihar, Brijpuri

The Liver Care Foundation collaborated with Suman Vidya Mandir Secondary School, Bhagirathi Vihar, Brijpuri, to conduct a liver awareness program. The session was attended by 30 students aged between 14 and 16 years, comprising 16 boys and 14 girls. Empathy Project incharge Dr. Smriti was also presented. The educator conducted an interactive session highlighting the vital role and importance of the liver in the human body. The session covered key topics such as the causes and symptoms of liver diseases, the harmful effects of alcohol and an unhealthy diet on liver health, and the prevention and transmission of viral hepatitis. Students were also encouraged to adopt healthy habits to prevent liver diseases, including:

- Washing hands regularly
- Avoiding contaminated food and water
- Not sharing personal hygiene items such as needles, toothbrushes, or razors



Community Liver Awareness Initiative

The Liver Care Foundation organized a liver awareness session for individuals from low-income communities, primarily residing in slum areas. The session revealed that most participants had limited knowledge about liver diseases, including conditions such as fatty liver and hepatitis (and its various types), as well as how these diseases are transmitted.

To assess their baseline awareness, participants were asked simple questions like: "Have you heard of hepatitis?", "Where is the liver located?", and "What are the causes of jaundice?" A majority of the participants were unable to provide correct answers, highlighting the urgent need for continued educational initiatives.



Pratab Nagar 12.12.2024



Kalyanpuri 23.10.2024



Kalander Colony, 21.2.2025



Trilokpuri 13.7.2024



Sangam Vihar 15.10.2024



Truck drivers at Transport Nagar

Liver Awareness on Women's Day at Janakpuri

On the occasion of Women's Day, The Liver Care Foundation conducted a Liver Health Awareness session at Janakpuri in collaboration with Deepalaya (NGO.) The participants were all students, ranging in age from 16 to 28 years. Ms. Jyoti from Deepalaya and Mr. Santlal played a key role in organizing and coordinating the event.

The session was delivered by Preeti Pandey using a PowerPoint presentation. The lecture covered several important topics, including:

- Liver functions
- Why the liver plays a crucial role in our body
- Hepatitis and its types
- Alcoholic and non-alcoholic fatty liver disease
- Causes, symptoms, and prevention of liver-related diseases

The participants listened attentively, and several questions were raised by the students, such as:

- “Kya mote logon ko hi fatty liver hota hai?” (Does only overweight people get fatty liver?)
- “Sugar-free tablet lene se kya diabetes ya fatty liver nahi hoga?” (Will taking sugar-free tablets prevent diabetes or fatty liver?)
- “Fatty liver hume kaise pata chalta hai?” (How can we detect if we have fatty liver?)

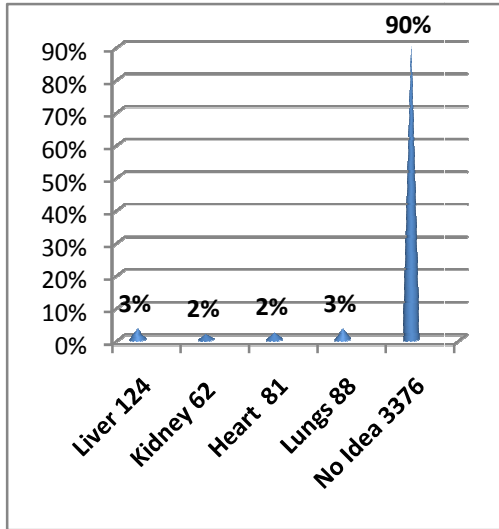
Dr. Mamata, the Project Manager (The EMPATHY Campaign) from ILBS was also actively participated in this program. At the end of the program, caps and brochures were distributed by the hospital, and refreshments were provided to all participants by the Foundation.



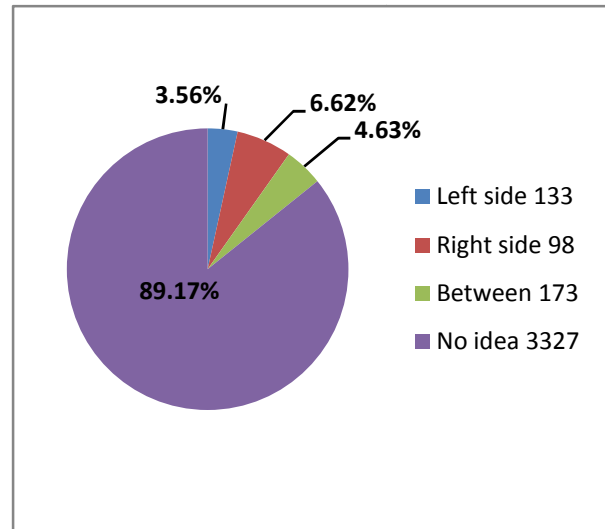
Participants pre-test to check the awareness level on liver health

What is the largest organ in human body?

The Liver Care Foundation conducted a pre-test of the participants to know their awareness level about the liver, hepatitis, jaundice and liver donation etc. When the question was asked **what is the largest organ in human body?** It was found that out of 3731 only 124 (3%) people gave the correct answer. 62(2%) said kidney, 81 (2%) heart, 88 (3%) lungs and 3376 (90%) were completely unaware about it.



The results of the second



question showed that 3.56% (133) of respondents believed the liver is located on the left side of the human body, 6.62% (98) answered the right side, and 4.63% (173) said it is located between the stomach. A large proportion of participants had no idea about the liver's location.

Do you know about Hepatitis?

Yes	No
25	3541
0.70%	99.29%

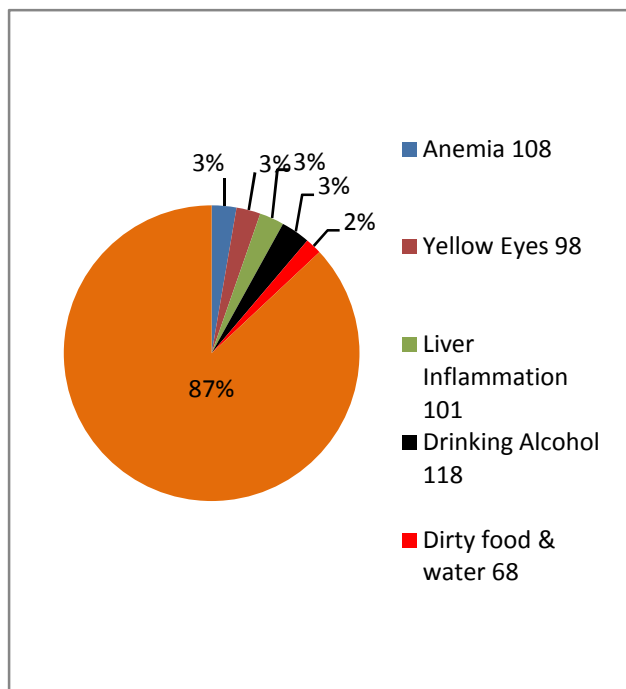
Would you willing to donate your liver?

Pre -Test		Post Test	
Yes	No	Yes	No
141	3425	589	2977
3.95%	96.4%	16.51%	83.48%

Out of 3731 participants, only 25 individuals (0.70%) reported being aware of hepatitis, while the vast majority (99.29%) had no knowledge of the disease. During the pre-test, when participants were asked, “Would you be willing to donate your liver?”, 96.4% (3425) responded “No,” and only 3.6% (141) were willing to consider donation. Following the educational session, the same question was asked in the post-test. The number of participants willing to donate their liver



increased; however, 83.48% (2977) still responded “No,” indicating that while the program had a positive impact, a significant portion of the population remains hesitant about liver donation.



What are the causes of Jaundice? When participants were asked, “What are the causes of jaundice?”, the results showed that a majority — 87% — had no idea. Meanwhile, 3% attributed it to anemia, 3% to yellowing of the eyes, 3% to liver inflammation, 3% to alcohol consumption, and 2% believed it was caused by consuming dirty food and water.

Conclusion: The findings highlight a significant lack of awareness regarding liver diseases such as fatty liver and hepatitis. This growing health concern is driven by multiple lifestyle-related factors, including alcohol

consumption, unhealthy and unsafe food habits, frequent intake of carbonated drinks, and a lack of physical activity. Addressing this issue requires a collaborative effort. Both Government and Non-Government Organizations should take proactive steps to raise awareness, promote healthy living, and implement preventive strategies to reduce the burden of liver diseases in the community.

Liver Care Foundation Financial Grant for APASL 2025

The Liver Care Foundation is committed to promoting and supporting upcoming doctors who are academically qualified to pursue higher studies or present research papers but are held back due to financial constraints. Each application is carefully evaluated on merit by a dedicated screening committee before any financial assistance is granted.

In our continued effort to support young scientists and doctors, travel grants were awarded this year to individuals who had been accepted to present their research at the **APASL 2025 conference in Beijing, China**. It was heartening to witness these bright, emerging professionals given the opportunity to showcase their work on an international platform.

Sno.	Name	Department	Institution
1	Dr. Gayantika Verma	Institute of Liver & Biliary Sciences, New Delhi	Department of Molecular and Cellular Medicine
2	Dr. Prerna Sharma	Institute of Medical & Research (PGIMER), Chandigarh	Department of Hepatology
3	Dr. Anchal Sandhu	Institute of Medical & Research (PGIMER), Chandigarh	Department of Hepatology
4	Dr. Deepa J	Institute of Child Health and HC, Madras Medical College, Chennai	Pediatric Gastroenterology
5	Dr. Deep Patel	Govind Ballabh Pant Institute of Postgraduate Medical Education and Research (GIPMER)	Department of Gastroenterology
6	Dr. Shrey Bhatt	Govind Ballabh Pant Institute of Postgraduate Medical Education and Research (GIPMER)	Department of Gastroenterology
7	Dr. Arti Sharma	Institute of Liver & Biliary Sciences, New Delhi	Department of Molecular and Cellular Medicine



Dr. Gyantika Verma

ChIP-Seq Validation of Histone Modifiers in Seroconversion Associated with Hepatitis B Reactivation

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Background and Aim: Hepatitis B virus (HBV) infection remains a global health challenge, with functional cure being rare. Epigenetic modifications play a crucial role in driving seroconversion and achieving a functional cure. We aimed to investigate the histone modifiers in hepatitis B reactivation patients leading to seroconversion.

Method: Sixteen HBV reactivation (rHBV) patients were followed up till 24 weeks for seroconversion (HBsAg loss and anti-HBs >10 IU/ml). Peripheral blood mononuclear cells (PBMCs) from seroconverters (SC) and non-seroconverters (NSC) were analysed for global methylation patterns and validated through chromatin immunoprecipitation sequencing (ChIP-seq) for H3K9 acetylation (H3K9ac) and methylation (H3K9me).

Results: At baseline, seroconverters showed hypomethylation of histone modifiers and transcription factors including *KDM4C*, *KDM2B*, *HDAC4*, *JMJD1C*, *GATA6*, *RAD51B* and *NCOR2* which was consistent through 24 weeks. Additional hypomethylation was observed in immune-related genes such as *IL17RA*, *IFNGR2*, *TLR5*, *IRF8*, *STAT5B*, and *TGF-beta*. ChIP sequencing with H3K9ac revealed increased acetylation of *KDM4C*, *KDM5B*, *JMJD1C*, *HDAC2*, *HDAC4*, *GATA6*, *NCOR2*, *RAD51B*, and *IL17RA*, as well as *IFNGR2*, *IL27*, *IL1RA*, *IL7R*, *IL15* and *IL15RA* in seroconverters at baseline and at 24 weeks. Similarly, decreased H3K9Me also leads to the activation of *G6PD*, *IGFR2*, *IL15RA*, *IL17B*, *IL2RA*, *DNMT3A*, *ATP6VOA1*, *ATP11C*, *ATP13A2* in seroconverters at baseline and 24 weeks. This enhanced

acetylation and decreased methylation is associated with genes related to rapid immune metabolic activation, potentially facilitating HBsAg seroconversion. Conversely, ChIP sequencing revealed increased H3K9 acetylation of exhaustion genes including *LAG3*, *CTLA4*, *FOXP1*, *PDCD2L*, *PDCD10*, *TGFBR2*, *TGFBR3*, and *HIF1-alpha* in non-seroconverters. This upregulation of exhaustion related genes was observed both at baseline and 24 weeks. Similarly, increased H3K9 methylation was observed in non-seroconverters with upregulation of *PDCD11* and *TOX2* at baseline and 24 weeks.

Conclusion: Increased H3K9 acetylation and decreased methylation in rHBV patients at baseline and 24 weeks was associated with immune metabolic activation driving HBsAg seroconversion. However, non-seroconverters showed increased acetylation of *LAG3*, *CTLA4*, *FOXP1*, *PDCD2L*, *PDCD10*, *TGFBR2*, *TGFBR3*, and *HIF1-alpha* which causes immune exhaustion and viral persistence.



Dr. Prerna Sharma,

Institute of Liver & Biliary Sciences, New Delhi, Department of Molecular and Cellular Medicine

Abstract Title: Role of Myocardial Perfusion Scintigraphy and Cardiac Magnetic Resonance Imaging in patients with Cirrhotic Cardiomyopathy

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Background: Cirrhotic cardiomyopathy (CCM), characterized by cardiac systolic and diastolic dysfunction, is seen in 35-50% of patients with decompensated cirrhosis. We investigated the role of stress thallium imaging for biventricular function, myocardial perfusion imaging (MPI) and cardiac magnetic resonance imaging (MRI) in evaluating cardiac function in CCM patients.

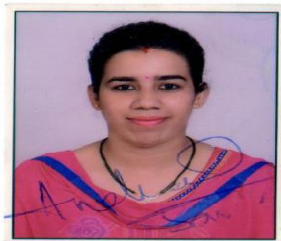
Methods: We prospectively recruited patients with cirrhosis of any etiology aged ≥ 18 years who were screened with a clinical examination and 2D Echocardiography and Tissue Doppler or speckle tracking Imaging. Patients who were diagnosed with CCM as per AASLD CCM Consortium criteria (2020) were included. Patients with coronary artery disease, valvular heart

disease, uncontrolled thyroid disease, portopulmonary hypertension, dilated cardiomyopathy and hepatocellular carcinoma were excluded. For the MPI scan adenosine plus 13.1 mCi of radiotracer (Tc-99m MIBI) was injected as per protocol. The multigated acquisition images (MUGA) equilibrium-gated radionuclide angiography was performed under the gamma camera after in vivo labelling of RBC with sodium pertechnetate.

Results: Of 380 screened patients, 155 patients were diagnosed with CCM (aged 50 ± 9.6 yrs, 73% men, 55% - alcohol-related, 16% metabolic dysfunction associated steatotic liver disease with mean MELD Na- 13.3 ± 6.1) Comorbidities were 25.8% with diabetes and 19.3% with hypertension. Mean Cardiac Output was 5.13 ± 1.83 L/min. Only 15.7 % patients had reduction in contractility on MPI. Mean Ejection fraction (EF) was 62.7%, End diastolic volume (EDV) mean was 123.8 ml and Endsystolic volume (ESV) was 57.9 ml on Cardiac MRI. The cardiac output on Cardiac MRI correlated with the Echo data.

Conclusion: The use of MPI/MUGA in CCM demonstrated high sensitivity in detecting myocardial perfusion abnormalities. Cardiac MRI was useful for evaluating left ventricular systolic function in CCM, but not diastolic dysfunction.

Keywords: Cirrhotic Cardiomyopathy, Myocardial perfusion, Cardiac MRI.



Dr. Anchal Sandhu

Institute of Medical & Research (PGIMER), Chandigarh, Department of Hepatology

Abstract Title: "Elevated Factor VIII Ag & hyperfibrinolysis are associated with early rebleeding in acute-on-chronic liver failure

with acute variceal bleeding"

Background & Aims: Hyperfibrinolysis and coagulation dysfunction related re-bleeding can occur in patients with acute-on-chronic liver failure (ACLF) with acute variceal bleed (AVB) despite successful endotherapy. We prospectively studied the association of endothelial dysfunction markers (Factor VIII Ag and von Willebrand Factor) and coagulation failure assessed by rotational thromboelastometry (ROTEM) in patients with ACLF with AVB, to predict rebleeding and mortality.

Methods: Consecutive patients with ACLF and AVB were assessed with conventional coagulation tests, ROTEM and factors VIII Ag and VWF by ELISA assays. Blood component use was as per the BAVENO VII consensus guidelines. Rates of rebleeding, blood component used and mortality at 28 and 90 days was assessed. Patients who had hepatocellular carcinoma, TIPS in situ, Portal vein thrombosis or those

Results: Of 343 patients screened, 123 patients aged 43.6 ± 12 years, 86.2% men, with 56.1% ethanol-related, 18.7% MASLD related, 4.9% Viral hepatitis as etiology. 18.7% had diabetes 16.3% with hypertension) were recruited. Primary site of bleed was esophageal varices (107/123, %), gastric varices (10/123, 8.1%) multiple site bleed (2/123, 1.6%) or post EVL ulcer (4/123,3.3%). Primary endotherapy was done as EVL (106%), glue injection (16,13%), multiple therapy (1,0.8%). 28-day rebleeding was noted in 23(18.7%), mainly post-EVL ulcer related. Self-expanding esophageal metal stent (Danis Ella) stent was inserted in 3(0.2%) ,Transjugular intrahepatic portosystemic shunt (TIPS) in 15(12.2%) and 5 (4.1%) underwent liver transplantation. PRBC transfusion was needed in 52/123(42.3%). Blood component used based on ROTEM were fresh frozen plasma (FFP, 24,19.5%), Platelet concentrate (15,12.2%), and Cryoprecipitate (21,17.1%). Patients who rebled had high Factor VIIIaG[aOR 2.1(95% CI 1.4-5.1, P=0.002) and vWF (aOR 1.7; 95% CI 1.2-4.2, P=0.023). Baseline Factor VIIIaG (HR 1.3;95% CI 1.1-1.9, P<0.001) predicted mortality. Increased A10 and A20 indicative of fibrinogen dysfunction on FIBTEM predicted rebleeding (HR1.6;95% CI 1.1-9.6; P=0.030). Low maximum clot firmness (MCF) on EXTEM at baseline predicted rebleeding events (HR 1.2; 95% CI 1.1-6.3; P=0.030).

Conclusions: Hyperfibrinolysis, and endothelial dysfunction assessed by FVIIIaG levels and VWF are associated with rebleeding in patients with ACLF



Dr. Deepa J

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Background Inherited or monogenic liver disorders have narrowed down the spectrum of cryptogenic liver disorders in the recent past. This study aimed to analyze the clinical and genetic spectra of inherited liver disease in children in a paediatric tertiary care hospital in South India.

Methods

In this ambispective study between May 2022 to November 2024 in a tertiary care centre in South India, a total of 150 patients were classified into five groups according to their clinical presentation: Cholestasis (Group A), Chronic liver disease(Group B), and Hepatomegaly with or without splenomegaly (Group C) and Recurrent Acute Liver Failure (Group D) and only Transaminitis (Group E). Next Generation Sequencing (NGS) was performed on all patients recruited in this study.

Results

The median age at enrollment of the 162 patients was 20 months (IQR: 5.0, 43.5 months), with 59.3% males and 40.7% females and 60% consanguinity. The overall diagnostic rate was 78.3% (127/162) in this group. Overall 55 genes related to different phenotypes were identified. In this study, 59 novel variants were identified and among them, 33 variants (55.9%) were identified as variants of uncertain significance and 26 variants (44%) were novel disease related pathogenic variants. All the novel variants showed a phenotypic genotypic correlation. Among the already reported variants, variants of uncertain significance were observed at a lower frequency 8/66 (12.1%), compared to the novel variants group. The diagnostic rates in the five groups: Cholestasis (Group A), Chronic liver disease (Group B), and Hepatomegaly with or without splenomegaly (Group



Dr. Deep Patel

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Abstract Title: Efficacy and Safety of Octreotide plus Midodrine in Decompensated Cirrhosis patients with Hepatorenal syndrome-Acute Kidney Injury

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Background: Considering long waiting times on liver transplantation list, pharmacological treatment for improving renal function in Hepatorenal syndrome (HRS) remain main stay including administration of albumin along with vasoconstrictors. Octreotide plus Midodrine considered to be the first alternative to Terlipressin or Noradrenaline, as use of later two limited by presence of cardio-respiratory comorbidities and non-availability of in-hospital intensive monitoring setup in resource-limited settings. The present study represent the efficacy and safety of Octreotide plus Midodrine in patients of HRS-Acute Kidney injury (AKI).

Methods: The data collected from prospectively maintained data base at tertiary-care centre of patients admitted with AKI having Decompensated Cirrhosis (DC) from April 1st 2023 to September 30th 2024. The patients with HRS having contraindication to Terlipressin or Noradrenaline were treated with subcutaneous Octreotide plus oral Midodrine standard regimen included in study and followed till discharge for HRS resolution and side effects monitoring.

Results: Overall 176 AKI patients admitted during study period, 74 (42%) had HRS-AKI out of which 30 patients received Octreotide with Midodrine were included. The Median age was 45 years (30-70 years), Median MELD score 30.0 (IQR 26.5-36) and median serum creatinine 2.6 (IQR 2.3-3.4). 12 (40%) patients had ACLF. HRS reversal occurred in 20 (66.6%) patients with

median times to response of 5 days (3-8 days). 7 (23.3%) patients died in-hospital out of which 6 were non-responders. 6 (20%) patients (all diabetic) had hyperglycaemia without ketoacidosis which was controlled by subcutaneous insulin. 4 (13.3%) patients had new-onset constipation, all with more than 5 days of Octreotide administration. No events of hypoglycaemia, biliary or pancreatic pain, paresthesia, sinus bradycardia, myxoedema, allergy, diarrhoea, chest pain, peripheral cyanosis and no drug related serious adverse events noted.

Conclusion: Octreotide with Midodrine regimen have considerable efficacy in improving renal function in HRS patients and a safer alternative to Terlipressin and Noradrenaline in resource limited settings



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Abstract Title: Discontinuation of NUC Therapy in Non-Cirrhotic Chronic Hepatitis B Patients

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Background

Nucleos(t)ide analogs (NUC) are recommended for chronic hepatitis B patients. It decreases progression of liver disease, complications and improves quality of life. Indefinite NUC therapy was recommended, associated with side effects, non-adherence, cost and patient's willingness to stop therapy. Multiple bodies have given recommendations to discontinue NUC therapy in chronic hepatitis B patients. No single consensus to discontinue NUC therapy in such patients till date. Current study observed clinical outcomes of discontinuing NUC therapy.

Methods

Retrospective data of 29 patients of chronic hepatitis B patients without cirrhosis treated at a tertiary care hospital were analysed in whom NUC was discontinued fulfilling APASL 2015 recommendations for NUC discontinuation. LFT and hepatitis B profile at 3 months after discontinuation of NUC therapy were retrieved. Patients with relapse of hepatitis B infection having significant HBV DNA load and/or abnormal LFT were restarted on NUC therapy. All the patients were followed up at 12 months and 24 months of first discontinuation of NUC therapy with HBV DNA load to look for relapse.

Results

Total 29 patients (18 males), with median age of 24 years were included. 15 patients were taking Tenofovir and 14 patients were taking Entecavir from the beginning of the therapy with median duration of treatment of 54 months at the discontinuation. 15 patients were HBeAg reactive and 14 patients were HBeAg non-reactive. At first discontinuation of NUC therapy, median S. AST and S. ALT were 25 U/L and 27 U/L with median duration of negative HBeAg and negative HBV DNA load of 25 months and 35 months. At 3 months of discontinuation, 14 patients were restarted on NUC therapy (7 on Entecavir, 7 on Tenofovir) with median S. AST, S. ALT and HBV DNA load of 34.5 U/L, 33 U/L and 97,50,000 IU/ml, respectively. Of these 14 patients, 10 patients were HBeAg reactive while 4 patients were HBeAg non-reactive at the beginning of NUC therapy. 15 patients did not require restart of NUC therapy at 3 months with median S. AST and S. ALT of 25 U/L and 26 U/L with negative HBV DNA load. Patients

with restart of NUC therapy, 5 patients had detectable HBV DNA load at 12 months. Patients without restart of NUC therapy, 1 patient had detectable HBV load at 12 months. 24 patients had follow-up data post 24 months of the first discontinuation of NUC therapy. All the patients had negative HBV DNA load, without HBV flare. 5 patients are on regular follow-ups without HBV flare.

Conclusion

Discontinuation of NUC therapy can be attempted in non-cirrhotic chronic hepatitis B patients who achieved sustained on-therapy virological remission and seroconversion. These patients should remain under strict clinical and laboratorial follow-up protocols to detect and manage relapses in timely manner. Patient motivation for therapy discontinuation and regular follow-up remains crucial.



Arti Sharma

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Abstract Title: Wnt7a from Hepatic LyEC facilitates cholangiocyte proliferation during liver regeneration

Background: Two thirds partial hepatectomy (PHx) triggers a systematic sequelae of multicellular events for liver regeneration. The kinetics of liver sinusoidal endothelial cells (LSEC) after PHx is well-known. Liver also contains a network of lymphatic capillaries lined by lymphatic endothelial cells (LyEC), which remain less studied. We investigated LyEC kinetics and their proteome profile after PHx.

Methods: 70% PHx rat models were developed and compared with sham at 1, 2, 5, 7 and 15 days (D) post-PHx (n=4 each) and IRI injury models were prepared by giving 70% ischemia to liver and then reperfusion. FACS analysis and imaging of hepatic LyECs and lymphatics were done. Lymphatic functionality was assessed by FITC dextran. Primary LSEC and LyEC were sorted using CD31+ and PDPN+CD31+ for proteome analysis at D2 post-PHx. Co-cultures of cholangiocytes-organoids (Chol-org) were done in presence of LyEC-CM (conditioned Media). In some studies, lymphangiogenesis was inhibited by intraperitoneal injection of VEGFR-3 inhibitor (MAZ51: 10mg/kg) for 3 days along with PHx. The regeneration was compared with another ischemia/reperfusion injury (IRI) model.

Results: Proliferating hepatocytes (Ki67+HNF4 α +) were maximally observed at 1D and 2D post-PHx. An increase in intrahepatic CK19+cholangiocytes was seen between 2–3D post-PHx in portal areas. Increased percentage of LSEC [2D: 6.5% (p<0.005), 5D: 14% (p=0.001)] and LyEC [D2: 3% (p=0.0024), D5: 7% (p<0.0001)] was observed at 2 and 5D post-PHx compared to sham. LyEC were prominently localized in portal areas in zone 1. Hepatic lymphatic drainage was increased by 20% (p=0.03) in 2D PHx compared to sham. In IRI models, maximum number of lymphatic and cholangiocytes proliferation was observed 72h after reperfusion. In proteome analysis, about 500 significant differentially expressed proteins were identified. Compared to sham, pathways like MAPK and Hedgehog were up regulated in PHx-LSEC while AMPK, MAPK, and IL17 were up regulated in PHx-LyEC. Among secreted proteins, PHx-LSEC showed increased expression of hepatocyte mitogen proteins, Wnt2 and oncostatin-M and in LyEC, Wnt7a and FGF20 factors, involved in cholangiocytes proliferation were increased. Wnt7a was found to be upregulated in both PHx and IRI models and showed interaction with cholangiocytes via Frizzled 7a receptor. Chol-org treated with Ly EC-CM and Wnt7a showed a considerable increase in numbers compared to untreated controls (12.6 $\pm$ 1.5 vs 6 $\pm$ 2, p=0.01). Furthermore, MAZ51 treatment, significantly decreased intrahepatic CK19+ cells at 2D PHx as compared to untreated ones (p<0.05).

Conclusion: Hepatic lymphangiogenesis is a characteristic feature after PHx. We identify secretory proteins like Wnt7a and pathway like IL-17 in hepatic LyEC, facilitating biliary cells proliferation in portal areas. Our study highlights a novel contribution of hepatic lymphatic vessels during liver regeneration.