



Fatty Liver- Lets Know it and Prevent it

Fatty Liver Disease in India- A major health burden for future

In India there is a shift in liver problems from hepatitis to life style related disease i.e. fatty liver. This fatty liver often ignored and progressed to cirrhosis, liver cancer and is going to be the most common cause for liver health issue in near future. With increasing obesity, diabetes, child hood obesity and other lifestyle related disease, the burden of fatty liver is increasing. At present more than 135 million Indians are affected by obesity, to add this problem around 20% of rural Indian adults will be either overweight or obese by 2030 and more than 27 million children will be obese. The India is considered to be the diabetic capital of India with nearly 67 millions cases. Considering these two entity only the future burden is too much depressing. The estimated burden of fatty liver (8-32% of Indian at present) will rise and may be upto 176 million population and the number is going to increase further over coming days and was described as "Silent Tsunami" by few authors. A fatty liver develop liver injury in 40-60%, leading to cirrhosis in 15-20% and liver cancer development at 2-3% per year. The disease course is slow and often taken lightly by individual and ignored by the many stake holders. Because of the gravity of situation, recently Govt of India included fatty liver into national health programme on non communicable diseases.

What is Fatty Liver ?

The simple meaning is presence of fat in the liver. It is normal to have a certain amount of fat in our liver because of liver being a fat processing unit of body. However with increasing fat content in the liver (normally its less than 5% of liver weight), the problems start and the disease progress with increasing fat content in the liver and over long duration of ignoring it or unable to diagnose. This fatty liver problem often defined in medical term as

Non Alcoholic Fatty Liver Disease (NAFLD) or Metabolic Associated Fatty Liver Disease (MAFLD).

Why we need to be worried of this Fatty Liver problem ?

Chronic liver disease is one of the major morbidity and its prevalence increasing day by day. With increasing obesity, diabetes, child hood obesity and other lifestyle related disease, the burden of fatty liver is increasing. At present more than 135 million Indians are affected by obesity, to add this problem around 20% of rural Indian adults will be either overweight or obese by 2030 and more than 27 million children will be obese by that year. The India is considered to be the diabetic capital of India with nearly 67 millions cases. Considering these two entity only the future burden is too much depressing. The estimated burden of fatty liver (8-32% of Indian at present) will rise and may be up to 176 million population and the number is going to increase further over coming days and was described as "Silent Tsunami" by few authors. A fatty liver develop liver injury in 40-60%, leading to cirrhosis in 15-20% and liver cancer development at 2-3% per year. The disease course is slow and often taken lightly by individual and ignored by the many stake holders. Because of the gravity of situation, recently Govt of India included fatty liver into national health programme on non communicable diseases.

What are the symptoms I can have?

Most of the initial stages are asymptomatic. Few cases present to us with mild pain or discomfort or heaviness in the right upper quadrant of abdomen, near the right side lower rib cage. The associated problem of gastritis, vomiting, nausea, hyperacidity and reflux problem may encountered. With progression of disease to cirrhosis can present with weight loss and abdominal distension, even spontaneous nose/ gum bleed. Additionally, itching, fluid build-up and swelling of the legs (edema) can be seen.

Do I have the risk for developing a Fatty Liver?

It may not be there, but checking the high risk profile will guide you, when to call. So find few of the most common risk factors- 1) Diabetes (more often if its poorly controlled),

2)Over weight or Obesity including truncal obesity i.e. protubeant belly , 3)Prsrrence of high blood pressure and cholesterol, 4)Alcohol intake, 5)Certain infections like Hepatitis C or hepatitis B 6)Thyroid problem, 7) Medications like steroid and 8) Family history of obesity, diabetes, heart disease, liver disease and kidney disease.

How should I get tested for fatty liver ?

The common thing is to check the high risk category as mentioned above, if you have any then its better to get tested. Very often fatty liver is diagnosed, when you are being evaluated for any other healty related issues. Ultrasonography is the most commonly used, cost effective, easily available & accurate investigation. Now at few places an easily available point of care device in varoius names i.e. Fibroscan, FibroTouch etc by which a rough idea on fatty content , liver stiffness can be known in few minutes. Apart from this, certain routine blood tests could tell about the blood sugar, cholesterol, uric acid and elevated liver enzymes (AST/ALT/GGT) often noted. Other tests like CT Abdomen, MRI abdomen or liver biopsy may be needed, but is only upon evaluation by an expert, to establish the diagnosis or rule out other causes.

Is uric acid and fatty liver related?

Serum Uric acid is an independent predictive marker for fatty liver. It also predicts as well as precedes the development of diabetes and Insulin resistance. Most often people hurried for medications for it, which is often not needed. Its often controlled by diet and weight reduction. Only your treating physician or if symptoms (joint pain in great toe or others) necessitates taking medication.

Diabetes and Fatty liver – A dangerous combination

Liver disease accounts for 4% mortality among diabetics and is a major associated comorbidity. The presence of fatty liver increases the incidence of diabetes and accelerates the development of complications among diabetes . fatty liver seen in 50-80% diabetics at any point of time and is nearly 100% among diabetics with obesity. Association of NAFLD with diabetes is broad, often with liver injury (NASH) in more than 50%, advanced fibrosis

in 30-40% and cirrhosis upto 19% and with a 10 fold increased risk of primary liver cancer i.e. HCC. These conditions often attributes to the liver related mortality among diabetes. In the population-based Verona Diabetes Study cirrhosis was the fourth leading cause of death and accounted for 4.4% of diabetes- related deaths. Cirrhosis accounted for 12.5% of deaths in patients with diabetes.

Obesity and Fatty liver – Another dangerous combination

Presence of fatty liver increases in parallel with obesity. With moderate obesity the prevalence is upto 60% and is nearly in all for people with morbid obesity. Among those diagnosed to have fatty liver about 51% were obese and with liver injury (NASH) obesity seen in 80% more of them. The risk of fatty liver increased by 4.1 to 14-fold with higher BMI. Similarly in absence weight reduction measures, long standing obesity led to increased liver injury, development of fibrosis, cirrhosis and liver cancer over time. To know your ideal weight various online calculator and mobile apps are available based upon body mass index (BMI) or by waist circumference. But the simplest thumb rule to calculate your desired weight like this

Weight in kg for male = height in cm -100 (e.g. if your height 5' and 6" i.e. 165 cm, then weight desired is 165-100=65 kg)

Weight in kg for female = height in cm -105 (e.g. if your height 5' and 6" i.e. 165 cm, then weight desired is 165-105= 60 kg)

Can Fatty liver happen in absence of obesity i.e. Lean NAFLD ?

Fatty liver is a problem often seen among obese. However 15% of NAFLD are lean, their BMI often normal or low $<22 \text{ kg/m}^2$. hence a term lean NAFLD was used. This is more seen in Asia, particularly India and more common in Eastern India. The risk factors in lean patients include high body fat, body weight gain even within normal weight limits, high fructose and high cholesterol intake, and genetic risk factors. The disease progression happen like others, but detail is not known. Lifestyle modification, including diet and physical activity remains the mainstay in the management of patients with non-obese

NAFLD.

So, does the fatty liver (NAFLD) have any genetic predisposition & run in the family?

Yes. Obesity, diabetes, hypertension, deranged lipids run in the family. If anyone of the family members have or had NAFLD-related cirrhosis, then chances of cirrhosis due to fatty liver in family members increases by 12 times. If anyone in the family member has this, you cannot avoid the genetic risk, but can negate the additional things i.e. lifestyle. A proper diet, adequate exercise and preventing weightgain or mantaining the ideal weight will reduce the chance significantly.

Is it risk to for my kids too?

Yes, as it has genetic predisposition & runs in the family. Proper exercise and diet can reduce the chances tremendously.

Can children suffer from fatty liver too?

Yes. It is the most common liver abnormality in children between 2-19 years of age. About one-third of overweight children & adolescents are having fatty liver disease. More prone are younger, heavier children with faulty dietary habit (junk food etc) and reduced physical activity.

Child hood obesity is a tickling bomb- are we ready for the challenge?

The number of children and adolescents aged 5–19 with obesity had increased to 50 million girls and 75 million boys. Previously its is USA, but now China had the most obese boys and girls, followed by the USA and India. The number is going to increase in near future and with expandig poulation like in India, the threat is going to be alarming. Currently 5-8.8% of school children are obese in India and if the pace continue like this, 27 million Indian children will be obese by 2030. The digitalization, physical anctivity, faulty dietary habit and poor parental knwoledge is the main key and is increasing over time. Aware of this global emergency posed by excess weight in children in near future, World

Health Organization (WHO) endorsed “no increase in childhood overweight by 2025” as one of the six global nutrition targets. It itself justifies parents and policy makers to think and act now, before it's late to intervene.