Summary and Conclusion

Chronic liver disease (CLD) isdefined as the continuity of clinical and biochemical evidence of hepatic dysfunction for longer than six months. Fibrosis follows chronic liver disease whatever the etiology.

Up till now, liver biopsy in essential in diagnosis of liver fibrosis. Beside invasiveness, liver biopsy has many complications like sampling error, tissue injury and bleeding . This situation strengthens the need for harmless, alternative and complementary non invasive serum biomarkers of hepatic fibrosis.

As TGF β represents the main fibrogenic cytokine in liver fibrosis which is correlated with the severity of liver disease and progression of fibrosis.

IGF-1 has an autocrine, paracrine and endocrine effect on multiple tissue and stimulates DNA synthesis through life.

Liver cirrhosis results in progressive decline in hepatic IGF-1 output as ninety percent of circulating IGF-1 originate in the liver and this factor may become undetectable in advanced disease. Some cirrhosis complications, mainly those nutritional and metabolic in nature (insulin resistance, malnutrition, osteopenia, hypogonadism and intestinal disorders), may be at least partly related to this IGF deficiency. .

Stunted growth and pubertal problems are common finding in children suffering from chronic liver diseases these patients also report a significant reduction in health –related quality of life, depression and emotional distress

Our study was carried out on 25 child with chronic liver disease with age ranged from 10-16 years with another normal healthy children as a control group with the same age, sex and locality.

Each of studied groups are exposed to thorough history taking, clinical examination including anthropometric measurements and pubertal assessment using Tanner staging and investigated upon using stool and urine analysis, CBC, complete liver functions and estimation of serum IGF1 and TGFβ levels. Ultrasound and Doppler was performed to all subjects .But only our cases had liver biopsy

School performance and depression score were estimated in both groups.

- Among our cases, 11 (44%) child had chronic HepatitisC, 6 (24%) had AIH, 4 (16%) with chronic Hepatitis B, 2 (8%) with GSD, 1 (4%) with CHF and 1 (4%) with antitrypsin deficiency.
- Hepatomegly was found in 16 (64%), Splenomegly in 16 (64%), Jaundice in 10(40%),portal hypertension in 5(20), ascites in 3 (12%) and lower limb edema in 1 (4%) of our cases.
- As regard anthropometric measurement, Height was found to be below the 3rd percentile in 7 of our cases and none of the control group and Height percentile and Z-score were significantly lower in cases compared to control group.
- There were no significant difference between cases and controls as regard weight and BMI.

- Regarding pubertal assessment using Tanner staging we found delayed puberty among 24% of our patients which is more among males but females also suffering from menstrual abnormalities.
- As regard liver function test there was highly significant difference between cases and control group regarding (serum transaminases, serum total and direct bilirubin, serum Albumin, prothrombin time and concentration).
- Serum concentrations of IGF1 were much lower in cases compared to control group and the difference statistically highly significant. IGF1 was found to be correlated with biochemical indices of liver dysfunction and also with the stage of liverfibrosis.
- Regarding serum levels of TGFβ, it was much higher in patient with chronic liver disease compared to normal children and serum TGFβ level were correlated to the stage of fibrosis indicated by liver biopsy also it was correlated to liver function impairment indices.
- Patients with chronic liver disease showed higher incidence of depression which was correlated with the duration of disease &also have lower school performance in comparison to healthy children .

Conclusion:

- children with chronic liver disease are more prone to growth retardation & pubertal retardation.
- Depression & poor school performance are more prevalent among our patients compared to control ones.
- Our study & other previous studies proved that ICF1 is a good indicator of liver dysfunction.
- TGFβ Was significantly higher and correlated with the stage of liver biopsy in patients with liver diseases of good sensitivity and high specificity, and is considered as a good fibrosis biomarker but still liver biopsy the cornerstone in diagnosis of liver fibrosis.