Fatty liver disease in children

What is fatty liver disease?
Fatty liver disease (FLD) describes a range of conditions caused by a build-up of fat within liver cells. The incidence of FLD is increasing and in many cases it is linked to being obese or overweight. Obesity is also associated with other health problems, such as high levels of cholesterol (a blood lipid), cardio-vascular disease, joint problems and emotional problems such as poor self esteem. Most patients with FLD do not develop serious liver problems. However, in some people the build-up of fat in the liver can lead to inflammation scarring and eventual liver failure. For patients who are obese or overweight, the main treatment advised is gradual weight loss and regular exercise. This not only helps to improve the FLD but also other associated health problems such as cardiovascular disease.

Stages of fatty liver disease
The different stages of severity of FLD are described below. It is difficult to predict which patients will develop the severe form of FLD.

- **Simple fatty liver** – also called hepatic steatosis. Normally, very little fat is stored in liver cells. Simple fatty liver means that excess fat accumulates in liver cells but that this does not cause any harm to the liver. However, in some people it can progress to more severe forms of fatty liver disease.
- **Steatohepatitis** (Steato means fat and hepatitis means inflammation of the liver) – in this condition the excess fat in the liver cells is associated with inflammation of the liver.
- **Fibrosis** (scarring of the liver tissues) – any form of persistent hepatitis, including steatohepatitis, may eventually lead to liver fibrosis. In the early stages of fibrosis, the liver cells continue to function quite well and the patient may remain fit and well. However, mild fibrosis can progress to severe liver scarring (cirrhosis).
- **Cirrhosis**. This is a serious condition where normal liver tissue is replaced by a lot of fibrosis. The structure and function of the liver are badly disrupted. Severe cirrhosis can lead to liver failure and need for liver transplantation.

Who gets fatty liver disease?
The most important risk factor for developing FLD is obesity. However, the factors that determine which people with obesity will develop FLD are not clear.
So for example, some people who are only mildly overweight may develop FLD. On the other hand, some people who are very obese do not develop FLD.

There are other factors that can lead to FLD, for example, certain drugs, infections, endocrine and metabolic disorders. Your doctor will consider additional special tests in order to rule these out.

**How is fatty liver disease diagnosed?**

There is no simple test to confirm FLD. Blood tests called liver function tests (LFTs) measure the blood levels of certain enzymes (chemicals) made by the liver cells. An abnormal pattern of LFTs may suggest that you have FLD. However, many other liver conditions can cause abnormal LFTs. Therefore, if you have abnormal LFTs, your doctor will usually do various other blood tests to rule out other causes of liver problems.

An ultrasound scan of the liver can be helpful. The scan typically shows an enlarged and ‘bright’ looking liver compatible with the appearances of FLD. However, a scan cannot definitely diagnose FLD and cannot assess the severity of inflammation or scarring.

If there is doubt about the diagnosis, or if you wish to know how severely your liver is affected, a liver disease specialist (hepatologist) may arrange a biopsy (small sample) to be taken from your liver. This can be looked at under the microscope and can show the extent of any fatty accumulation, inflammation, scarring, etc, in the liver. See separate leaflet called ‘Biopsy - Liver’.

**What is the treatment for non-alcoholic fatty liver disease?**

**Treatment of obesity and overweight**

Most cases of FLD are linked to being obese or overweight. There is good evidence that a programme of gradual weight loss and regular exercise can reduce the amount of fat in your liver and normalize your LFTs. Your GP or hospital doctor may refer you to see a dietitian. There is also a lot of information available on the Internet regarding healthy eating and active life styles:

- www.nationalobesityforum.org.uk
- www.change4life.co.uk
- www.MENDcentral.co.uk

**Treatment of Type 2 diabetes**

Obesity is associated with the development of diabetes. You may be referred for further special investigations in order to diagnose whether you have diabetes and whether you require special treatment for this.
Medication that affects the liver itself

Various drugs have been suggested as possible treatments for FLD. However, there is little research evidence to show that any drug can significantly improve the abnormal LFTs. Some studies have shown an improvement in liver histology with the use of Vitamin E.

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