immunofluorescent examination. The factor was identified as IgG and was able to activate C3 in vitro.

Symptomatic treatment with antihistamines and pyridoxine was ineffective, and systemic treatment with corticosteroids was inadvisable in view of the hypertension. Plasma exchange was therefore carried out. In three exchanges during the 26th week of pregnancy a total of 81 plasma were replaced with human albumin solution and Haemaccel. Within 24 hours of the first exchange the pruritus subsided significantly and no new lesions developed. After three exchanges the lesions had virtually disappeared and C3c and IgG were no longer present in a skin biopsy specimen. Pruritus recurred and new skin lesions developed during the 37th week of pregnancy, when the patient gave birth to a healthy boy weighing 2880 g. A very severe exacerbation occurred within 48 hours of parturition, and the HG factor was again found in the maternal serum as well as in venous umbilical cord blood. The infant had no skin lesions. After another plasma exchange the pruritus, skin lesions, and HG factor rapidly disappeared. Four exchanges were made within a week and 12 l of plasma were replaced. A flare-up three weeks postpartum necessitated two more exchanges.

Comment

As has been shown in Goodpasture's syndrome and in myasthenia gravis, conditions based on the presence of autoantibodies responded well to plasma exchange.[4] In herpes gestationis a plasma factor (IgG) seems to be important in the pathogenesis of the pruritus and the skin lesions. Corticosteroids are given reluctantly in pregnancy, particularly in the presence of hypertension or toxaemia. Our case shows that the pruritus and skin lesions of herpes gestationis respond rapidly to plasma exchange and C3c and IgG deposits are no longer present in the skin. Plasma exchange is a safe and simple procedure, even in pregnancy.

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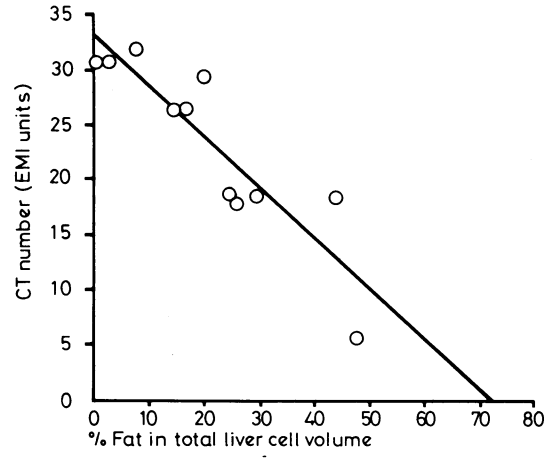
Accuracy of computed tomography in diagnosis of fatty liver

Fatty infiltration of the liver can be diagnosed with computed tomography (CT) because of a general decrease in the radiological density of the liver. This change can be quantified by measuring the CT number of the liver, and studies in rabbits[1] and cadavers[2] have shown a decrease in CT number with increasing fat content of the liver. To assess the accuracy of CT in the diagnosis of fatty infiltration in clinical practice, liver CT numbers were compared with histological and biochemical estimates of liver fat concentration obtained from biopsy samples.

Patients, methods, and results

Eleven patients (nine men, two women; mean age 43·8) with suspected fatty liver were studied. Percutaneous liver biopsies were performed using Menghini needles, and samples were examined histologically by two experienced observers working independently. The relative volume of fat vacuoles as a percentage of total liver-cell volume was estimated using a point-count technique (242 counts per sample). Liver triglyceride concentration was measured chemically in 10 of the 11 biopsy specimens according to the method of Cramp and Robinson.

Within 24-48 hours of biopsy an EMI CT5005 whole-body scanner was used at 140 kVp to obtain an artefact-free scan of the liver, and the CT number of a region of interest on the lateral aspect of the right lobe of the liver was measured in EMI units. Histological, biochemical, and radiological assessments were performed independently. Two patients with alcoholic hepatitis and one with cirrhosis showed evidence of non-uniform fat deposition. In two cases the right lobe was 4-5 EMI units lower than the left and in the other case irregular fat deposition was seen within the posterior aspect of the right lobe. There was a strong inverse correlation between liver CT number and fatty change as observed histologically (figure; $r = -0{\cdot}9$, $p < 0{\cdot}001$). A significant inverse correlation was also observed between CT number and liver triglyceride concentration ($r = -0\,57$; $p < 0{\cdot}05$).



Liver CT number at 140 kVp and percentage of fat in total liver cell volume in 11 patients with suspected fatty liver.

Comment

CT may provide a non-invasive technique for estimating liver fat content with an accuracy comparable to histological and biochemical techniques. It may be particularly valuable in patients with severe fatty liver in whom liver biopsy is prevented by a coagulation disorder. Follow-up CT scans may also be helpful in monitoring fat clearance from the liver during treatment.

Non-uniform fat deposition as seen in three of our patients has been described[5] and is a potential source of error. CT numbers are also subject to errors caused by changes in the frequency of x-rays as they traverse the patient and changes in other factors, but with attention to detail these can be minimised.

The technique is brief, requiring only a single 20-second scan and no oral contrast medium or muscle relaxant, and may prove a useful alternative to liver biopsy.

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