Hepatic diseases

Basing upon the results of injected implantations after experimentally produced hepatic lesions by HARBERS (1954), HARDEGG and MAAS (1958) and STÖWER (1956), major clinical studies on hepatitis and consequences of hepatitis were conducted already in the 1950s by RIETSCHEL (1955) and OETZMANN (1958, 1959). Not few physicians engaged in cell therapy were induced by therapeutic results in their own chronic hepatic disease to change to this method. NEUMANN (1963, 1967) has methodically dealt with the experimental fundaments.

H. TEIR (1951, 1957) and his team succeeded in augmenting the rate of mitosis in hepatic cells by injecting hepatic tissue if the recipients were young (2-month-old-rats) whereas old animals showed no effect augmenting mitosis, no matter whether the material came from young or old animals. The effect augmenting mitosis ceases when the suspensions of liver are heated to 60° or 100° C. As back as in 1945, MARSHAK and WALKER demonstrated that chromatin from cellular substance of rat liver augments the rate of mitosis in the liver cells of recipient animals.

HARBERS (1954) provoked the hepatic lesion with carbon tetrachloride twice per week for 10–12 weeks produced in the Wistar rats a hepatic necrosis, which developed into an aspect resembling the cirrhosis of the liver. HARBERS concluded from the course of the function tests and from the time of survival that «the very serious manifest hepatic lesions are favourably influenced both with fresh cells and with dry cells». High doses of implantation material (63 mg per injection) did not provide better results than low ones (17 mg).

HARDEGG and MAAS (1958) studied, under slightly changed conditions, the influence of homologous fetal hepatic tissue on the lesion caused in the liver of rats by carbon tetrachloride (females 0.5 ml/kg of CCl 4 three times per week for 2 months); parameters were the general behaviour, loss of weight, formation of ascites, activity of the serum-cholinesterase; the latter subsided during the injections of CCl 4 to 30%–35% of the initial values, but recovered in the animals treated with cell implantations more obviously than in the controls.

OETZMANN produced with thiocetamide a slighter lesion similar to cirrhosis of the liver. The group treated with hepatic lyophilisate had the highest rate of survivors (36.5%), in contrast to that of the control group (13.3%).

HÖTZL (1956, 1960, 1961), LAUDAHN

and LÜDERS (1960) as well as L. F. MÜLLER (1961) conducted extensive studies using *suspensions of hepatic mitochondria* in cases of chronic hepatitis and cirrhosis of the liver. These experiments referred to as «new biologico-therapeutically highly effective principle» by HÖTZL were unfortunately not continued.

Clinical reports
on cell therapy in hepatic diseases were written by P. NIEHANS, BURCKHARD-(1956), KALK (1957), OETZMANN (1958, 1959) and A. C. GIANOLI. The clinical statistics by OETZMANN (1959) comprise only part of the patients whose number grew later but are useful as regards the numbers and controls. OETZMANN divided his patients into 3 groups.

Group a):
The patient got only the basic therapy: choline, hepsane, vitamins and diet.

Group b):
The treatment was based on choline, hepsane, diet and prednison.

Group c):
Treatment with choline, hepsane, diet and injections of tissues i. e. in all cases: liver, adrenal gland and placenta. This group includes 210 patients.

In question were diseases treated with «classical-conservative» methods (a), a second group (b), which got in addition prednison, and a third one with additional implantations of tissues (c). The results obtained in group c) with examinations 2 years later are shown in Tab. 46. Both for the chronic hepatitis and cirrhosis of the liver, the best results were obtained in the group on implantations, the worst in the prednison group.

Subsequent bioptic examinations were conducted later, though not evaluated.

Tab. 46: **Hepatic diseases;** summary of the clinical results by OETZMANN. Explanation of the therapies denoted as a), b), c) in the text. n = number of patients. The figures in parentheses give the results of subsequent examinations conducted about two years later.

Clin. aspect	therapy	n	improved	unchanged	worsened
Chronic hepatitis	a	116	57%	39%	4%
	b	54	50%	9%	41%
	c	99	67%	33%	0%
	(c)	(62)	(18%)	(47%)	(35%)
Transitional stages	a	45	39%	39%	22%
	b	19	42%	16%	42%
	c	38	65%	29%	6%
	(c)	(22)	(23%)	(41%)	(36%)
Compensated cirrhosis	a	54	33%	45%	22%
	b	27	37%	45%	18%
	c	63	48%	43%	9%
	(c)	(51)	(21%)	(28%)	(51%)
Decompensated cirrhosis	a	–	–	–	–
	b	22	14%	14%	72%
	c	12	0%	50%	50%
	(c)	(5)	(0%)	–	(100%)

Most clinicians and practitioners agree in stating that

a) implantations of cells are not indicated for acute hepatitis;
b) indicated are: *chronic aggressive hepatitis, transition forms of liver-cirrhosis and compensated cirrhosis of the liver.*

Agreeing with OETZMANN, the implantation material should not be restricted to fetal liver but include moreover gastrointestinal mucosa, placenta, adrenal gland, in case also pancreas. Beyond these approved indications, implantations of liver ought to be taken into consideration for

all congenital disorders of protein metabolism,
enzymopathies,
dysbacteria,
ulcera,
degenerative disorders of central nervous system,
liver complaints due to alcohol,
achondroplasia,
osteogenesis imperfecta.

The central position of the liver within the protein and glycogen metabolism, its part of a fetal place of hematopoesis make this organ a neuralgic point in most of the metabolic disturbances, in cases of abnormal hematopoesis and in cardiac decompensation. Fig. 257, 258, 259, 302, 303, 305, 308, 309, 314 show examples of including implantations of liver in a general therapeutic scheme.

Alcoholism

Liver damages are a central problem in chronic alcoholism. A wholistic concept for this important socio-medical question offered H. BRAMMER (1982).

A catamnestic study on 87 alcoholic patients subjected to combined therapy. The physical part of the treatment consists of cell therapy, autohaemotherapy and ozone; the non-physical involves psychotherapy, individual interviews and group therapy. Overall condition, capacity to act productively, and ability to concentrate had improved by 95–100% at the time of post-study, 13 months later, and the relapse frequency was reduced from 85% to 44%.