

Cardiac and vascular disorders

The foremost indication in practice for injected implantations of placenta, fetal arteries, myocardium are the degenerative changes of the vessels. Although approximately more than 2 million people with peripherious circulatory disorders, cerebral coronary sclerosis were treated by cell therapy during the last 30 years, the clinical records are scarce as against the practical empirism.

Experimental studies on these pathological complexes were conducted by DORNBUSCH (1956, 1963, 1967); KUHN and KNÜCHEL (1954); KLEINSORGE (1954, 1956); STEPANTSCHITZ and SCHREINER (1956, 1966). The effects on

the peripheral blood circulation proved unanimously by the research workers were not found by KANZOW (1957) alone.

The tests on animals are supported for the peripheral circulatory disorders by extensive clinical experience: KUHN and KNÜCHEL (1954, 1955); E. A. MÜLLER (1953); H. KLEINSORGE (1956); C. VIDAL SAPRIZA and M. GAYOSO (1956); J. OETZMANN (1956); R. BRANDNER (1957); A. PICOURET (1958); G. SPRADO (1957); VALLS CONFORTO (1961); F. E. BIRCHER (1959); R. B. HENRY (1961); J. STEIN (1974); A. C. GIANOLI (1980).

Peripheral circulatory disorders, arteriosclerosis

Whoever has seen repeatedly the action visible after 3–10 minutes of 150 mg of placenta on the livid-cool acres of peripheral circulatory disorders, has remarked with astonishment this rapid though temporary immediate effect of a cell injection. This may be accounted for by the hormones contained in the placenta, perhaps also other vasoactive substances; the factual action on the vessels after cell therapy sets in later.

KUHN and KNÜCHEL (1954), KNÜCHEL and KUHN (1955) saw in fundamental clinical studies the lipoprotein and cholesterol level subside in 64 patients with arteriosclerosis within 4–6 weeks after injections of placenta; on the other hand, these readings changed little in 100 patients of a control group. The 17-ketosteroids in the urine augmented – as analyses with various injections

showed in more than 700 patients – after injection of placenta more than after hypothalamus or hypophysis, although significant results were obtained here, too. The mean daily secretion of the total-17-ketosteroids came from 8.45 ± 5.5 mg before the treatment, to 19.61 ± 8.0 mg after the treatment, the significance of the secretion was established at $P = \text{greater than } 0.001$. These results were not confirmed by H. HAENEL, W. SCHNEIDER and H. J. STAUDINGER (1962); they were not able to demonstrate any specific effect by changes of the 17-ketosteroid and corticoid secretion in the urine when applying dry cells (sicca-cell) of endocrine and non-endocrine tissues (adrenal cortex, testes, liver). The small number of «ulcus sufferers confined to bed but healthy in endocrine respect» were not suited for this parameter

as the effect of cell therapy depends essentially on a disorder (hypofunction) of the tested organs.

STEPANTSCHITZ and SCHREINER found objective and subjective improvements in 8 patients of 15 with vascular sclerosis treated with placenta. The ergometrically, oscillometrically and rheographically registered improvements persisted for at least 8 months. Of 3 patients suffering from Morbus Reynaud, 2 improved. The cholesterol level did not respond in 11 patients, in 5 it declined. KLEINSORGE used the walking distance, the registering of skin temperature and oscillography to substantiate the therapeutic results. General conditions and nocturnal calf-pains were assessed subjectively. The walking distance was doubled within 4–12 weeks after injection of placenta among 21 patients (45–76 years) in 8 cases, and tripled in 3 cases; 3 persons were virtually free from complaints. These improvements persisted for 13–16 weeks in the majority of cases

(14 of 21 patients), and up to $\frac{1}{2}$ year in 4 cases.

Of 72 cases treated by OETZMANN in part with placenta, placenta + liver + testes, 58 showed improvements. Reactive hyperemia, changes of the skin temperature, lowering of the cholesterol level, increased walking distances were registered. BRANDNER divides his observations into 19 cases of general sclerosis. For average ages of 66 (57) years and in cases of preceding complaints of 3–4 years, the results in coronary sclerosis were better (15 cases free from complaints, 1 temporary improvement, 1 failure) than in general sclerosis (9 free from complaints, 6 improved, 4 failures). As «rates of success», OETZMANN gives 73.2% of 150 patients, KUHN 67% of 700 patients and RIETSCHEL 72.1% of 93 patients.

For coronary sclerosis, BRANDNER examined 9 of 17 patients 1 year after the cell implantations: 5 showed improved ECG, 4 no changes of ECG, though they were free from complaints.

Cardiac insufficiency

Whereas certain authors regard cardiac insufficiency as a contraindication against cell therapy because the stress by the injection alone constitutes an additional strain for the organism (GIANOLI, 1977); H. J. OETZMANN (1956) relying on his many clinical patients drew more differentiated conclusion. In the classical postulate for limitation of cardiac activity (rest), strengthening of the myocardium (glycosides), diet and diuretics he does not see any contrast to cell therapy.

Doses of fetal myocardium (100 mg), fetal liver (150 mg) and placenta (150 mg) reduced in degenerative disorders of the myocardium the time of recompensation in the stage of decomposi-

tion. After a short phase of lassitude, the patients revived. As massive diuresis was observed during the active phase even in so far glycoside-refractory cardiac insufficiency, cell implantation seems to be the very cause of the glycoside effect on the decompensated heart in many cases; OETZMANN presented 5 casuistic reports.

Normalizations of the blood-protein pictures, the calcium, sodium, potassium metabolism and, probably, influences on the metabolism of the adenylic acid proceeded with the clinical effects.

Papers on this subject are published by B. SCHWEERS (1956), RAWER (1959) and UHLENBRUCK (1960).

Cardiac infarction

Fresh cardiac infarctions are improper to cell therapy (J. STEIN, 1974; A. C. GIANOLI, 1977). After an interval of 3–6 months and a clearly proved identification of scars, cell therapy does good for the blood circulation and promotes the contraction-regulating mechanism of the heart. The regenerability of the myocardium by new buddings of vessels has been substantiated by impressive studies.

Contraindications against cell thera-

py are, according to unanimous judgments, all inflammatory heart diseases as the inflammatory processes might be stimulated. Also advanced cases of coronary sclerosis need critical consideration, especially if the following changes of ECG are there (J. STEIN, 1974): graduated ST-lowering, convex descendent or inverted T-wave tempering into isocoles negativity, trouble in the conductive nerves of the heart and absolute arrhythmia.