

A force transducer of the 'buckle'-type for measuring tensile forces in collagenous structures of small size

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und Schichtenbildung. Um einen weiteren Nachweis dafür zu erbringen, daß diese Fehlentwicklung auf die selektive Zerstörung der Meningealzellen zurückzuführen ist, führten wir ein Substitutionsexperiment durch. Dabei erhielten neugeborene Ratten innerhalb von 12 h nach der Geburt eine einmalige intracisternale Injektion von 6-OHDA. Weitere 12 h später wurde ihnen in Narkose ein Transplantat aus fetalen Meningen (entweder als zusammenhängendes Häutchen oder als trypsinierte Zellsuspension) auf das exponierte Kleinhirn gelegt. Nach 30 Überlebenstagen zeigte sich, daß die 6-OHDA-induzierten Veränderungen der Foliation und Schichtenbildung in Abhängigkeit zur topographischen Nähe des Transplantates, verglichen mit 6-OHDA-behandelten Tieren ohne Transplantat, statistisch signifikant abgenommen hatten.

Morphological changes in the suprarenal gland of the rat following irradiation of the hypophysis with soft-laser

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We irradiated the anterior hypophyseal lobe of 12 white male rats of an average weight 230 ± 25 g with the He-Ne laser light (Polytec 750, 632,8 nm, 5 mW) for 5 min, with rest intervals of 1 min. Three populations were used: control, simulated and experimental. The effects on the suprarenal gland were observed after 3 d and 40 d by different histological and histochemical methods. The experimental group showed important modifications in all layers, especially after 40 d post-irradiation. The most evident changes were in the fascicular layer.

A force transducer of the "buckle"-type for measuring tensile forces in collagenous structures of small size

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In textbooks of anatomy the collagenous connective tissue structures around to elbow joint are described in terms of ligaments. It is shown that such a classification is not adequate. In the proximal part of the forearm collagenous connective tissue is arranged in a 3-dimensional spatial complex consisting of intermuscular septa proximally continuing as four layers around the humeroradial joint. Muscle fasciculi and collagenous connective tissue structures are connected in series, so that the concept of two parallel force transmitting structures, the ligaments for static forces (passive stability of the joint) and the muscles for dynamic forces (active stability), does not hold (v. MAMEREN). The aim of our work is to obtain insight into the force transmission through the collagenous connective tissue structures by means of research in vitro. For that purpose a forcetransducer is designed and tested. It is small sized (1.5×5.0) mm, disturbance of the geometry and integrity due to the transducer installation is small. With the aid of a special tool the installation of the transducer is relatively simple and the position is well defined.

A mechanical model of this transducer has been formulated. With the aid of this model the load-output signal relationship can be predicted as a function of different parameters, so an optimal design can be made and prescriptions for installation can be given. The new "buckle" transducer and the auxiliary tools for installation will be described; some preliminary results will be reported.

MAMEREN, H. v., and J. DRUKKER: *Int. J. Sports Med.* 5 (1984) 88—92 (suppl.).