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European Society for Surgical Research. 16th Congress, Garmisch-Partenkirchen 1981

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Editors: K. Messmer, R. Schosser, H. Zeintl

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European Society for Surgical Research

Abstracts

Editors:

K. Messmer, R. Schosser, H. Zeintl

54 Lymph Vessel Transplantation for the Treatment of Experimental Lymphedema in Dogs

*R.G.H. Baumeister, J. Seifert, B. Wiebecke,
J. Krumbach*

The aim of the investigation was to develop a causal therapy for the secondary lymphostatic edema due to a regional blockage of the lymphatic system. A reconstruction of the blocked lymph vessels is only possible by lymph vessels, as can be seen from the literature.

Therefore an experimental lymphedema in dogs was treated by autologous transplantation of lymph collectors. The edema was produced according to the Clodius model I with a total blockage of the deep and superficial lymphatic system of the hind leg on dogs. After induction of the lymphedema the circumference of the leg rose during 8 days at about 50%. After microsurgical autologous lymph vessel transplantation with tension-free anastomosing technique the circumference diminished to a remaining difference of 10%. To check the lymphedema model the successfully transplanted lymph vessels were removed to see whether a lymphedema could be observed again. When the transplants were removed, values as before the transplantation were reached, indicating that a transplanted lymph vessel is able to treat an experimental lymphedema. The intralymphatic pressure of normally 2.5 torr was elevated during the phase of edema at 12.5 torr and was in the range of the normals after the transplantation.

The patency of the transplants were proved by inspection, lymphography, injection of dyes and isotopes, and by histological examinations. In all 10 dogs at least one open

transplant could be detected histologically. By lymph vessel transplantation it is possible to treat successfully an experimental lymphedema in dogs.

This is a promising method also for the treatment of a secondary lymphostatic edema in man.

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