Transplantation of Lyophilized Cartilage in Maxillo-Facial Surgery

Hermann F. Sailer

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Experimental Foundations and Clinical Success

84 figures and 24 tables, 1983


Hermann F. Sailer

Privatdozent, Dr. med., Dr. med. dent.,
Leitender Arzt, Kieferchirurgische Klinik des Universitätsspitals Zürich
(Clinic for Maxillo-Facial Surgery, University of Zürich), Schweiz/Switzerland

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Foreword

Writing the foreword to a work published by one's own students is always a special pleasure for any teacher. To do so for this work published by Hermann F. Sailer gives me at the same time a welcome opportunity of expressing my thanks to the author. He reports here on the experimental animal studies he conducted and the results he obtained in his investigation of the behaviour of transplanted lyophilized grafts of allogeneic and xenogeneic cartilage and of the host tissue. For almost 20 years we have been using lyophilized allogeneic cartilage in the maxillo-facial region for various indications - but chiefly for the reconstruction of contour defects - with a large measure of success, growing enthusiasm and a constantly widening range of indications. Initially, we implanted suitably shaped
pieces of cartilage subperiostially; later we made increasing use of thin slices of cartilage completed with the dermatoma. While it is true that, clinically, a block of cartilage used as an implant gradually calcifies and also ossifies to some extent, a certain reduction in volume also occurs due to partial resorption, as may be verified by examination one or several years after implantation.

Where several thin lamellae of cartilage are used, ossification of the piece of cartilage in direct contact with the bone can be observed; the other slices show, clinically speaking, no loss of volume and have all the external characteristics of vital cartilage. We had no explanation for the differing clinical behaviour observed in these two forms of application, nor did we have any knowledge at all of the fundamental scientific aspects of the reactions of either the recipient or the implant material.

Stimulated by our observations, Dr. Sailer took on the task of defining the biological basis of our clinical experience by means of animal experiments. My personal friendship with Professor David Poswillo enabled Dr. Sailer to conduct the necessary experiments with monkeys under realistic clinical conditions in the laboratory of Professor Poswillo and Professor B. Cohen's department at the Royal College of Surgeons of England. Dr. Sailer accomplished his goals with outstanding success, his histological and immunological evaluations of the experimental material obtained from the test animals providing convincing explanation of the clinical findings. He also acquired unexpected new knowledge which again proved to be of great clinical significance.

This report by Dr. Sailer will undoubtedly be of great interest to anyone deciding to use
lyo-cartilage clinically. On the other hand it may help to bring about more widespread clinical use of lyo-cartilage and consequently lead to substitution of the latter for the synthetic material widely used today in similar indications. In the light of our clinical experience this would be most desirable.

In congratulating the author, I hope that this report on his work will achieve the wide readership it deserves.

Hugo L. Obwegeser

Acknowledgement

This monograph is the result of the stimulating influence of my most honoured teacher, Professor Hugo L. Obwegeser, whom I wish to thank for the many years of support and encouragement in my work.

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To Dorle, Martin, Evi