Biomaterials in Artificial Organs

edited by
John P. Paul, James M. Courtney,
John D.S. Gaylor and Thomas Gilchrist



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PREFACE

The fifth in the series of Strathclyde Bioengineering Seminars was held in September 1983 and considered the wide and highly topical subject of biocompatibility of materials for clinical use generally but especially in artificial organs. Seminars in the present series were preceded by two broad-spectrum symposia held in 1964 and 1972. The series has covered the areas of Tissue Viability and its Clinical Applications, Extracorporeal Blood Treatment Systems, Rehabilitation of the Disabled and Computing in Medicine. These seminars were published by The Macmillan Press under the titles of *Bedsore Biomechanics* (July 1976), *Artificial Organs* (July 1977), *Disability* (December 1979) and *Computing in Medicine* (November 1982).

This series was initiated by Professor R.M. Kenedi who also in 1976 negotiated the agreement of the Court of the University to the institution of the Adam Thomson Lecture in which a distinguished expert gives a lecture summarising the state of the art in his own specialised field. These lectures carry the name of Professor A.S.T. Thomson to record the wholehearted support and generous encouragement which he offered to assist the initial formation of the Bioengineering Unit. On this occasion, the meeting was organised in association with the International Society for Artificial Organs (ISAO) and the Adam Thomson Lecture was delivered by the current President of the ISAO, Professor Horst Klinkmann, Clinic for Internal Medicine, Wilhelm Pieck University, Rostock. The selection of Professor Klinkmann to deliver the Adam Thomson Lecture was more than usually appropriate in view of the close collaborative research programme firmly established between Professor Klinkmann's department and the Bioengineering Unit.

The present seminar related to research and development in biomaterials either as implants or as components in extracorporeal blood purification devices. Special sessions included haemodialysis and peritoneal dialysis, haemoperfusion, plasma separation and the interaction of biomaterials with tissue and blood. The seminar was attended by registrants from the United Kingdom, Australia, Belgium, Canada, France, FRG, GDR, Israel, Italy, Japan, Netherlands, Norway, Sweden and the USA.

The organisers acknowledge their good fortune in having the support and financial backing of the Scottish Development Agency who are active in furthering the introduction and growth of the health care industry in Scotland.

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In the financial crises facing universities at this time, it is easy to forget that the Health Services are also under similar pressures, and the continuing support for the seminar programme by the Greater Glasgow Area Health Board is therefore particularly appreciated. Registrants' folders and writing materials were donated by the Bank of Scotland and travel facilities were provided by Wakefield Fortune Travel, to both of whom sincere thanks are due.

A seminar cannot be held on the scale of the present one without adequate publicity and the organisers are indebted to the Biological Engineering Society for being cosponsors of the meeting and also to the Hospital Physicists' Association for undertaking circulation of information. Butterworth Scientific Ltd, Springer-Verlag, S. Karger AG, Wichtig Editore SRL, Dialysis and Transplantation and the European Society for Artificial Organs assisted by giving publicity for the seminar in their journals.

A particular sense of indebtedness is owed by the organisers to the City of Glasgow District Council for the warmth of the Civic Reception given by them to the seminar participants and guests.

This is also the occasion to remember and thank staff and students of the Bioengineering Unit for their help and forbearance. Similarly, thanks are due to the relevant administrative and supportive staff of the University for their assistance in the organisation and conduct of the meeting.

Glasgow, 1984

J.P. Paul

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