Allograft Research and Transplantation

Editorial Comment

Hans Burchardt PhD, William W. Tomford MD

Published online: 29 June 2012

© The Association of Bone and Joint Surgeons® 2012

The Musculoskeletal Transplant Foundation (MTF) has sponsored research grants since the early 1990s, with the goal of increasing scientific information on allograft tissue transplantation. To foster interchange between scientists and physicians interested in transplantation, the Foundation has also supported periodic symposia in which leaders in this field have gathered for two days of scientific presentations and discussion. In September 2011, the Sixth MTF Symposium was held in Chicago, IL, USA. This symposium highlighted major themes of transplantation important to the biologic reconstruction of patients, including (1) tissue processing and transplantation, (2) transplants involving ligaments and soft tissues, (3) molecular pathways and growth factors affecting transplantation, (4) stem cells in biologic reconstruction, and (5) tissue engineering affecting transplantation.

In addition to discussing advances in transplantation, the symposium program also recognized the sacrifices and generous gifts of donor families. The cochairs of the symposium, Dr. J. A. Buckwalter of the University of Iowa (Iowa City, IA, USA) and Dr. M. E. Bolander of the Mayo Clinic (Rochester, MN, USA), acknowledged the unselfish decisions all donor families make in times of crises. As

Fig. 1 Hans Burchardt, PhD, is shown.

Fig. 2 William W. Tomford, MD, is shown.

All ICMJE Conflict of Interest Forms for authors and *Clinical Orthopaedics and Related Research* editors and board members are on file with the publication and can be viewed on request.

H. Burchardt
Musculoskeletal Transplant Foundation, Edison, NJ 08837, USA
e-mail: hans_burchardt@mtf.org

W. W. Tomford (✉)
Orthopaedic Service, Massachusetts General Hospital,
55 Fruit Street, YAW-3B, Boston, MA 02114, USA
e-mail: wtomford@partners.org

guest editors, we want to quote the core of their comments from the symposium program: “Donor families have led [the field of transplantation] in a manner we intuitively understand, yet struggle to fully appreciate or comprehend. Their altruism is the true spirit of humanity. To say more seems to lessen the depth of our appreciation.” The dual role of the symposium fostered a special connection between researchers and physicians and the public they serve.

A symposium is a specific collection of scientists and clinicians presenting the latest information on a particular topic. In this case, the collection is the result of MTF’s Peer Reviewed Grant Program. Twenty-four of the 25 presentations at this symposium were funded in the last 5 years by this program. In this publication, a number of manuscripts from the symposium are presented. The intriguing question that traverses all of these papers is: where are we now or what has changed since the two Guest Editors began their research on tissue transplantation in the mid-1970s? In short, we have evolved from studying microbiology and biomechanics in tissue incorporation to examining the influence of microbiology on healing and manipulation of healing pathways. Nonetheless, the basic facts of incorporation of transplanted tissue remain the same, as has the rate of success in the use of allograft

tissues. Tissue transplantation continues to be important in providing options in the treatment of musculoskeletal problems afflicting hundreds of thousands of patients each year.

Knowing where we are, the followup question is: where are we going? As illustrated in this symposium, one possible direction is the application of advances in computerized engineering such as dynamic contrast enhancement (DCI)-MRI and cone tomography to evaluate angiogenesis in bone formation. The “Holy Grail” of developing appendages in vitro or in vivo remains the ultimate goal. There are interesting beginnings as scientists are now using synthetic matrices with human stem cells to form the rudiments of appendages. In fact, the research community has clearly focused on the use of stem cells to replicate human tissues on demand.

We want to thank all of the participants of the Sixth symposium for the creative interaction that occurred between physicians and scientists. We also want to thank CORR for the opportunity to include these manuscripts as peer-reviewed entities that emphasize the importance of continued research in transplantation. Inclusion in a journal of CORR’s excellence and recognition in the professional community assures the added distribution of these findings to the scientific world.