Tissue Banking and Transfusion Medicine – a Suitable Cooperation Model

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The clinical application of tissue preparations, which include transplants for ophthalmology (cornea, amnion, and sclera), cardiovascular surgery (heart valves and vessels) as well as musculoskeletal tissue transplants (femoral head and other bone tissue, cartilage, tendons, ligaments, and fasciae) and skin, at first sight seems to have little in common with the special field of transfusion medicine. However, closer scrutiny will yield many cases of interface resulting from the fact that both blood and tissues are gained from human donors. Therefore, it is the common task of tissue banking and transfusion medicine to draw up scientifically valid interdisciplinary documents and standards dealing with the production, examination, and licensing of allogeneic tissue transplants. Main emphasis here is on the risk-related evaluation of the different types of tissue regarding donor suitability, safety from infection, including testing for pathogens, inactivation proceedings and clinical application, and, last but not least, communication with regional and national authorities. This issue of TRANSFUSION MEDICINE AND HEMOTHERAPY will look at various aspects of tissue banking which discuss both regulative and scientific topics.

In the first article authors Mareri et al. [1] provide information about the European Registry for Organs, Tissues and Cells (EURO CET). This registry was a project funded under the e-TEN programme of the European Commission, DG INFSO, and started on September 1, 2005, aiming at setting up a registry on organ, tissue and cell donation and transplantation activity shared by old and new member states. The current data and new perspectives were discussed. The information in the paper is suitable for all colleagues who are interested in data about tissue collection and transplantation on the European level.

In 2007, 2008, and 2009 outbreaks of Q fever occurred in the Netherlands with increasing magnitude. The 2009 outbreak with 2,354 reported cases is the largest human Q fever

outbreak ever recorded. In a recent paper the extent of infection and the safety of local blood donations were tested for presence of *Coxiella burnetii* antibodies and DNA [2]. The impact of the Q fever outbreak for tissue donations was discussed by van Wijk et al. [3] in their contribution.

Kalus et al. [4] report on a prospective study concerning the validation of infection-related serological parameters for providing evidence of HIV, HBV, and HCV from post-mortem blood in the BEP-III system. This paper might serve potential users as a technical guide for their own validations and fills a gap in the scientific processing of post-mortem laboratory analysis in compliance with EU Guideline 2006/17/EC [5].

Jashari et al. [6] answer the question, long discussed among experts, if after the antibiotic treatment of cardiovascular tissue relevant remaining quantities will still be transmitted into the recipient organism. By using HPLC methods, it could be proven that concentrations of antibiotics still detectable in heart valve allografts are far below toxic limits, and, consequently, there is no danger for recipients of cardiovascular allografts.

In two further articles the subject of musculoskeletal tissue transplantation is under closer scrutiny. Brockbank et al. [7] concern themselves with the question of the consequences of long-term storage of cartilage tissue at 4 °C and provided evidence of negative effects on chondrocyte viability and matrix permeability. George Galea [8] reports on the main reasons for the exclusion of femoral head donors in Scotland and discusses the results by comparing them with the regional blood donor collective.

Transfusion medicine has the great opportunity to be instrumental in answering essential technical questions in tissue banking. It is to be hoped that this claim could be substantiated by the selection of papers presented in this issue, and one or the other transfusion expert will be motivated to occupy themselves more with the scientific subjects of tissue banking.

References

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