Immunosuppression following Fresh Arterial Homograft Implantation for Aortic Graft Infections

We read with great interest the report of Pupka et al. comparing fresh arterial homografts (FAH) and silver-coated grafts to treat aortic graft infections, since we obtained similar results with cryopreserved homografts.1,2 Beyond that, the paper contains important data about another matter of active debate, namely immunosuppression after FAH. The authors can be congratulated on their study protocol that allows for the first clinical comparison of FAH with and without immunosuppressive therapy. Unfortunately, this item was not taken up in the discussion. The authors advocate immunosuppression early following implantation and believe to prevent consecutive degeneration due to less late complications in this group.1 However, the study lacks information about HLA/ABO matching. We would encourage the authors to look up these data as well. While in CAH and infection no correlation between ABO-incompatibility and outcome was found, this question has not been answered for FAH yet.2

Lymphocyte scintigraphy was used for patient surveillance. We think that the results should be interpreted with caution. The method does not allow distinguishing between rejection and infection. Both conditions are reflected by the same scintigraphic findings. Therefore, the proposed algorithm propagating to react with antibiotic treatment on increased uptake (instead of adjusting immunosuppressives) cannot be unequivocally supported. We would encourage the authors to compile all the important immunological data and to continue their very important research in this field.

References


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Response to comment regarding “Immunosuppression Following Fresh Arterial Homograft Implantation for Aortic Graft Infections”

We would like to thank you for the interesting comment about our article. In our study tissue histocompatibility, ABO compatibility and cross-match were carried out in every patient. All our patients received ABO compatible grafts. There was no statistical difference in tissue histocompatibility between both groups.

We believe that the ABO compatibility for FAH is needed, while there are no convincing data that it does not affect the graft viability. We also assume that immunosuppressive treatment helps to stop the degradation of the arterial wall and prolongs its viability of FAH.1 We observed that the lack or discontinuation of intake of these medicaments caused the degradation of the arterial graft’s wall and loss of the endothelial cells. Azuma et al. made the same observation in his experimental trial.2

Prolonged antibiotic therapy and cyclosporine A did not cause any complications associated with the decreased immunity. The increase of the accumulation of the labeled leucocytes around the homograft can be regarded as the chronic reaction against the foreign tissue or an infective process. We think that new experimental studies that include immunosuppressive drugs and antibiotic dosage adjustment and new diagnostic methods are essential to solve the problem of the best therapeutic options for patients with aortic graft infections. We are going to present more detailed information about the problem of immunosuppression following FAH implantation for aortic graft infections in our next article.

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