



INVITED COMMENTARY

Commentary on “An experimental rodent model of whole eye transplantation for assessment of viability and immunological outcomes”



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Transplantation of a whole eye, achieving restoration of vision following visual loss due to ocular trauma, may seem a far-fetched endeavor, but the personal, societal and economic impacts of traumatic visual loss are dramatic.^{1,2} This dichotomy was recognized by a US National Eye Institute research priority setting panel in 1978, which reported that “No successful eye transplant ever has been done in a mammal, nor is there any near-term prospect for success. However, the subject is of such overriding clinical importance that it merits research attention.”³

This statement, sadly, remains as true today as it was 40 years ago, with little tangible progress having been made towards this lofty goal. However, over the past two decades, progress in the field of reconstructive transplantation has been significant, with medium to long term outcomes in both upper extremity and facial transplants offering encouragement, albeit balanced with new questions and challenges to address.^{4,5} Recently reported developments such as successful live-birth following uterine transplant from a cadaveric donor demonstrate continued progress in seeking out new solutions to challenging clinical problems.⁶

In “An Experimental Rodent Model of Whole Eye Transplantation for Assessment of Viability and Immunological Outcomes”, Zor and colleagues report the development of a rodent heterotopic whole eye transplantation model which

promises to be a useful tool with which to address the multiple challenges posed by transplantation of this unique, and critical, organ. Importantly, this model requires a level of microsurgical expertise attainable by the majority of reconstructive microsurgeons, and by performing the study at two separate laboratories, they have already taken a key step in demonstrating reproducibility. This study does not in itself break new scientific ground, but in providing a well designed, technically achievable model, and presenting this in conjunction with a thoughtful discussion of relevant literature and fundamental unanswered questions the authors lay the ground work for progress on several fronts directly relevant to reconstructive transplantation.

Conflict of Interest Statement

The author has no conflict of interest to disclose.

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