
RESPONSE: We thank Dr. Freeman and colleagues for their insightful comments regarding our recent publication. Dr. Freeman’s group, one of the leading groups in neurotransplantation in the United States, makes several well-supported points regarding the technical considerations that must be accounted for when performing fetal transplantation. Although we have no personal expertise in methods of allograft microdissection, the idea that people performing such dissection should be highly skilled, well trained, and meticulous in their technique seems quite justifiable, and we laud this group’s attempt to advance the field by careful regulation of this methodology.

With regard to the low morbidity that has been achieved with fetal transplantation as compared with adrenal transplantation, the authors make several excellent points and, indeed, do seem to explain why there have been so few complications reported with this method. Our comments were not intended to suggest disbelief with the results but rather to reflect the impressive improvement in outcome with this new technique, which is, perhaps, one of the reasons why widespread interest has grown in recent years. Similarly, we did not mean to imply that PET scanning is an improper way to follow patients with fetal transplant, and, indeed, strongly advocate its use. Our principal comment was that it provides no anatomical information regarding the graft and, therefore, does not allow the investigator to determine whether a graft is growing, changing, or regressing. Magnetic resonance spectroscopy may provide similar metabolic information to PET scanning and may also become a standard part of the follow-up regime.

The authors are incorrect in stating that we implied that the use of multiple donors resulted in the poor outcome observed in this patient. In no part of the paper did we make this statement. However, we did speculate as to why a graft nodule might grow following transplantation. As there was no evidence of neoplastic growth, but strong evidence of a nonspecific immune response, we logically assumed that the observed immune reaction was generated in response to the foreign tissue. We persist in our interpretation that there would be a greater degree of immunogenicity associated with multiple donors than with a single donor. This is widely supported in animal models of neurotransplantation and in the solid organ transplant field, as referenced in our manuscript. The fact that mixed donor grafts can survive is not proof that multiple donor grafts are as immunogenic as single donor grafts. Certainly, further investigation is warranted to answer this question definitively.

We do not agree with Dr. Freeman and colleagues’ comments that aberrant transformation of a fetal graft is a “theoretical” concern. This is obviously a real concern, given the fact that both our group and Folkerth and Durso1 reported such cases. We do agree that neoplastic transformation is a theoretical concern not supported by case studies, but nonneoplastic aberrant growth has now clearly been demonstrated in two publications and is, therefore, not just a theoretical concern but an actual concern. The authors’ statement that “. . . such unexpected cellular transformation has never been described in thousands of studies, and thousands of cases have occurred without any report of such events . . .” somehow overlooks our publication, which reports exactly this phenomenon. The term “transformation” implies neoplastic growth and is therefore inaccurate. Perhaps a more accurate statement is that aberrant growth, but not neoplastic transformation, is a real concern but appears to be an extremely rare event that is detectable with routine magnetic resonance imaging.

Finally, we wish to emphasize that the goal of our paper was to report an admittedly unusual outcome from transplantation, the first such case documenting DNA evidence of foreign alleles in the allograft. The goal of the article was by no means to impugn or impede efforts in the field of transplantation. Between allografts, expanded stem cell populations, viral vectors, and a variety of other techniques, we believe that neurotransplantation represents one of the most exciting frontiers in neurosurgery today and laud the efforts of all the investigators who endeavor to expand the field.

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Reference

Trochlear Nerve

TO THE EDITOR: I read with great interest the recent article by Tubbs and Oakes (Tubbs RS, Oakes WJ: Relationships of the cisternal segment of the trochlear nerve. J Neurosurg 89:1015–1019, December, 1998). I agree with the authors that because of its small caliber and its hidden location under the tentorial edge, the cisternal portion of the nerve makes it potentially fragile so that it may be inadvertently damaged during surgical manipulation in the region of the tentorial incisure. However, I was surprised that they forgot to include its diameter: 0.7 to 1 mm thick.3 Although the distances between the trochlear nerve and selected cranial structures were described in great detail, I believe that they should have mentioned the neural relationships with the trigeminal nerve. From a surgical point of view this is an important landmark that should not be forgotten in infratentorial supracherebellar approaches, es-
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especially during decompressive operations on the trigeminal nerve, as it forms part of what Rhoton refers to as the upper complex in the microsurgical anatomy of posterior fossa cranial nerves.

Finally, readers who are interested may wish to complement the very detailed anatomical drawings in the article with color photographs of fresh anatomical specimens by visiting the web site at www.softmed.es/senec/.

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References


RESPONSE: We would like to thank Dr. Urculo for his interest in our paper. We did not “forget” to include the diameter of the nerve; there simply was so little variation in the size that we elected not to include that measurement. We did not attempt to map all of the relationships of the fourth cranial nerve but rather chose those that had some importance for surgery in the region and those in which there was some variation in the position of the nerve.

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Please be advised that, due to a printing error, the cover of the April issue of the Journal of Neurosurgery: Spine is incorrectly labeled as issue number 4. The April issue of the Journal of Neurosurgery: Spine, as stated on cover 2 and throughout, is issue number 2.