Editorial

Autograft-derived spinal cord mass following olfactory mucosal cell transplantation

ROBERT F. HEARY, M.D.

Department of Neurological Surgery, Rutgers New Jersey Medical School, Newark, New Jersey

The authors describe a case involving an 18-year-old woman who was a motor vehicle accident victim and sustained an American Spinal Injury Association Impairment Scale Grade A spinal cord injury (SCI) at the T10–T11 level due to a fracture/dislocation.¹ Three years after the accident, having not benefited neurologically from a decompression-stabilization surgical procedure, the patient elected to undergo experimental surgery wherein olfactory mucosa was transplanted into her spinal cord. Eight years after the transplant, with no neurological benefit having been realized, she developed back pain and an intramedullary spinal cord mass.

A second surgery was performed to resect this mass, which expanded the spinal cord and appeared multicystic on MRI and on pathological examination. The pathology evaluation revealed that the mass had cysts lined with respiratory epithelium, submucosal glands with goblet cells, and intervening nerve twigs that appeared nonfunctional. After removal of this mass, the patient's back pain improved.

This case serves as an important reminder of the potential dangers of transplanting cells into the injured human spinal cord. The imaging suggested that a neoplasm might be present, and the patient had symptoms. Most importantly, this occurrence happened 8 years after the transplant surgery. This case report highlights the need for detailed and prolonged follow-up for all patients who undergo experimental stem cell type transplantation surgery for SCI.

Spinal cord injury victims are desperate for any potential "cure." This is understandable. It also places these patients and their families at risk of agreeing to treatments prior to proof of efficacy being demonstrated. In numerous places throughout the world, various forms of experimental SCI surgery are being performed. This case demonstrates the need for formal follow-up and reporting of the long-term outcomes for these patients. SCI victims are some of the most vulnerable people on the planet. We need to watch out for them and assure that they are being cared for properly. The authors of this case report are to be applauded for bringing this situation to our collective attention so that we are reminded to remain diligent in our follow-up and reporting of any spinal cord transplantation type surgeries. It is the least we can do for our patients. (<http://thejns.org/doi/abs/10.3171/2014.2.SPINE131172>)

Disclosure

The author reports no conflict of interest.

Reference

1. Dlouhy BJ, Awe O, Rao RC, Kirby PA, Hitchon PW: Autograft-derived spinal cord mass following olfactory mucosal cell transplantation in a spinal cord injury patient. Case report. *J Neurosurg Spine* [epub ahead of print July 8, 2014. DOI: 10.3171/2014.5.SPINE13992]

Response

PATRICK W. HITCHON, M.D., AND BRIAN J. DLOUHY, M.D.

Department of Neurosurgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa

We agree with and thank Dr. Heary for his comments. As neurosurgeons, we should always be skeptical regarding experimental treatments for the many diseases and disorders that we confront. We have witnessed waxing and waning treatments for Parkinson's disease, glioblastoma, disc degeneration, and SCI among many other conditions. In spite of the randomized and blinded multicenter trial of methylprednisolone for SCI¹ and subsequent additional studies, 30 years later we still have heated discussions on this topic. We are fortunate that our specialty has been vigilant in its peer review process for publication and has provided stringent screening for funding of clinical studies. Unfortunately, the same does not hold true for the experimental SCI treatment discussed in our publication.

We should always be skeptical of overly optimistic results, particularly those from nonrandomized trials, which have not been subjected to the scientific rigor, selection process, and follow-up that we demand of our peers and colleagues. We are reminded of the pharmacology professor who, after spending hours studying and lecturing on the many cardiac medications available to treat the ailing heart, concluded: read and feel empowered, attempt and be humbled.

Reference

1. Bracken MB, Collins WF, Freeman DF, Shepard MJ, Wagner FW, Silten RM, et al: Efficacy of methylprednisolone in acute spinal cord injury. *JAMA* 251:45–52, 1984

Please include this information when citing this paper: published online July 8, 2014; DOI: 10.3171/2014.2.SPINE131172.