

**48th ANNUAL DIAGNOSTIC SLIDE SESSION, 2007
DIAGNOSES AND REFERENCES**

MODERATOR: E. Tessa Hedley-Whyte, M.D.

EDITOR: Leroy R. Sharer, M.D.

Case 2007-9

Submitted by: C. Dirk Keene, M.D., Ph.D., Joshua A. Sonnen, M.D., Thomas J. Montine, M.D., Ph.D., and Ellsworth C. Alvord III, M.D., University of Washington Division of Neuropathology, Seattle, WA 98104-2499

Diagnosis: Viable fetal neural tissue grafts with associated marked gliosis

Comment: This patient received a fetal neural tissue graft into the basal ganglia at age 47 years, with no clinical improvement in his condition thereafter. The graft was from an aborted fetus of 10 weeks gestational age, retrieved from the lateral ganglionic eminence. The patient was treated with cyclosporine for 18 months after the graft was placed. No needle track could be identified grossly, although there was a track with gliosis noted microscopically. Cells in the graft were positive for MAP2 but negative for GFAP. The graft neurons lacked intranuclear ubiquitin-positive inclusions, which were present in host neurons. There was no evidence of graft overgrowth, and no robust graft-host connectivity, with few neurofilament positive processes traversing the graft-host parenchyma interface. Clinical trials of fetal neural tissue grafts in Huntington disease have not proved clinically to be very effective.

References:

Dunnett SB, Rosser AE. Cell therapy in Huntington's disease. *NeuroRx* 2004; 1:394-405.

Keene CD, Sonnen J A,, Swanson, P D, et al. Neural transplantation in Huntington disease: Long-term grafts in two patients. *Neurology* 2007; 68:2093-2098. [This case is Patient 1 in this paper.]

Kopyov OV, Jacques S, Lieberman A, Duma CM, Eagle KS. Safety of intrastriatal neurotransplantation for Huntington's disease patients. *Exp Neurol* 1998; 149:97-108.

Ross BD, Hoang TQ, Bluml S, et al. In vivo magnetic resonance spectroscopy of human fetal neural transplants. *NMR Biomed* 1999; 12:221-236.

Note: Dr. Keene received the third annual O.T. Bailey-Helena Riggs Award for best presentation by a trainee at the Diagnostic Slide Session, selected by vote of the Charter Members of the Diagnostic Slide Session and presented at the awards ceremony on April 30, 2007. The paper in *Neurology*, cited above, was published in the June 12, 2007, issue.