FIRST POSTER SESSION MOVEMENT DISORDERS

POSTER ABSTRACTS

Pathological findings from two Parkinson disease patients after intraputaminal GDNF infusion

Vanessa Smith, MD¹ • Tritia Yamasaki, MD, PhD² • Yi Ai, PhD³ • Don Gash, PhD³ • Peter Nelson, MD, PhD¹ • Gerhardt Greg. PhD3 • John Slevin, MD2

 1 Pathology, University of Kentucky ullet 2 Neurology, University of Kentucky ullet 3 Anatomy and Neurobiology, University of Kentucky

tients who underwent intraputaminal infusion of glial-derived in motor scores by 6 months and 1 year of treatment, which neurotrophic factor (GDNF).

Background: GDNF has been shown to have neuroprotective and neuroregenerative effects in vitro, and antiparkinsonian effects in animal models. Intraputaminal infusion of GDNF in Phase I clinical trials showed mixed results. However, intraputaminal GDNF failed to reach its primary end point in a blinded, Phase II trial.

Methods: These patients were part of a ten patient cohort for an FDA-approved Phase I trial conducted in 2003. In this study, GDNF was continuously infused with dose-escalation through a unilateral intraputaminal catheter in patients with moderate to advanced idiopathic PD. The two patients described here completed one year of therapy before termination of the infusion.

Results: Here we report the pathological findings of two patients approximately one decade post intraputaminal GDNF

Objective: To describe the postmortem findings from two pa- infusion. Clinically, both patients had a significant improvement was lost within 9 months of GDNF withdrawal. Unilateral administration of GDNF in the two patients did not demonstrate detectable long-term effects in terms of significant gliosis at the infusion site. There was no evidence of cerebellar lesions or Purkinje cell loss similar to what was seen in a preclinical primate toxicology study, which also supports the results of a prior MRI study of these patients. As expected, Lewy body pathology consistent with advanced PD was seen in both cases. One patient had a post-study course complicated by metastatic mela-

> Conclusions: This is the first post-mortem study of GDNF intraputaminal infusion conducted at the University of Kentucky in 2003. Pathological and biochemical studies did not detect detrimental long-term effects from one year of intraputaminal GDNF infusion in the two patients studied.