Discussion

An explanation for the finding that severity was a positive predictor for improvement after infusion, may be that patients with more severe symptoms have a narrower therapeutic window for levodopa treatment than those with less severe symptoms. Since the main advantage with infusion is a smoother plasma concentration profile compared to oral treatment, the time spent outside the therapeutic window will decrease more in patients with narrower therapeutic windows compared to those with broader windows.

In DBS-studies, Welter et al. (2002) found that preoperative UPDRS III score on levodopa correlated negatively to corresponding relative improvement with subthalamic stimulation on levodopa. Jaggi et al. (2004) concluded that preoperative levodopa response, young age and long disease duration were positive predictive factors. The present work indicates that selection criteria should be different for infusion since baseline severity was a positive predictive factor for improvement. Thus, infusion might be an interesting alternative to DBS in the more advanced patients and a study comparing these two treatments in this patient group would be welcome.

Conclusions

• The main finding was that the more severe parkinsonian symptoms the patients had during their oral treatment, the more improved they became after infusion. This finding was reproducible between two clinical studies for different measures of severity and improvement.

• The classification and numerical prediction methods were reasonably successful and have a potential to become useful for optimizing recruitment of candidates for infusion in the future.