Is liver transplantation a reasonable alternative in neurologic Wilson disease patients resistant to chelators? Lessons from the French experience in 18 cases

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The discovery of chelators and zinc for Wilson disease (WD) turned a life-threatening illness into a chronic disease. Despite this substantial progress, few patients with severe neurologic presentation are from the onset resistant to classical chelation and develop severe handicap or die. Liver transplantation (LT) improves survival in case of hepatic failure but its indication in severe neurological forms without liver failure is controversial. To evaluate the effect of LT in patients with severe neurological worsening resistant to active chelation, we studied French WD patients who underwent a LT for pure neurological indication between 1994 and 2016. Neurologic impairment with Unified WD Rating Score (UWDRS) and modified Rankin score (mRS) were assessed before LT and at the last follow-up. The primary outcomes were the survival rate and the disability at last follow-up. Prognosis factors were further assessed. 18 patients had LT. They were highly dependent before LT (mRS 5 in 16/18 patients). Neurological symptoms were severe (mean UWDRS 101.3+/-22.1), with dystonia and Parkinsonism. The cumulated survival rate was respectively 88.8%, 82.5%, 72.2% at 1, 3 and 5 years. At last follow-up, fourteen patients were alive. Their mean mRS and UWDRS were significantly lower (p0.0001 and p=0.0003) compared to the pre-LT state. Severe sepsis (p=0.011) and ICU admission (p=0.001) in the month before LT were significantly associated with death. LT is a therapeutic option that should be proposed in selected neurologic WD patients resistant to decoppering therapies as it allows patients to gain physical independency with a reasonable risk.