Effect Modifiers of Outcome of Surgery in Patients with Herniated Disc Related Sciatica? A Subgroup Analysis of a Randomised Clinical Trial

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Background: Tubular discectomy compared with conventional microdiscectomy has been introduced to speed up the rate of recovery in patients with lumbar disc related sciatica, although similar results have been shown. We performed a subgroup analysis to investigate whether certain patients might benefit more from either two surgical treatments.

Methods: A double-blinded randomised trial was performed to compare the rate of recovery and outcome at 1 year between tubular discectomy and conventional microdiscectomy. Complete and nearly complete recovery, documented on the patient's global perceived recovery, were defined as good outcome. Effect modification of the allocated treatment strategy by predefined variables on the rate of recovery and outcome at 1 year, were analysed by Cox proportional hazard analyses and logistic regression analyses, respectively.

Results: With respect to the outcome rate of recovery, interaction with treatment effect was present for the variable gender and type of disc herniation. Patients with contained disc herniation (hazard ratio 0.73; 95% CI 0.49 to 1.09) and women (hazard ratio 0.75; 95% CI 0.54 to 1.06) had slower rates of recovery when treated with tubular discectomy. Variables correlated with good outcome at 1 year were level of education and Slump test. Higher educated patients (odds ratio 0.18; 95% CI: 0.06 to 0.59) and patients with negative Slump (odds ratio 0.24; 95% CI 0.06 to 0.92) fared worse at 1 year when they underwent tubular discectomy.

Conclusions: Superiority of tubular discectomy compared with conventional microdiscectomy was not demonstrated. Subgroup analyses identified only few variables that were associated with more or less benefit from one of the allocated treatments.