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Predictive validity of disability rating scale in determining functional outcome in patients with severe traumatic brain injury

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Background: Most patients with severe traumatic brain injury (TBI) are discharged when they are still not physically fit. An assessment of disability in inpatient settings with a simple and robust measure usable by non-specialist ward staff is useful in addressing the outcome of such patients. The disability rating scale (DRS) was developed to assess change during rehabilitation and is considered most versatile outcome assessment tool for patients with TBI. This study assesses the validity of the DRS at discharge from acute setting for predicting functional outcome later. **Methods:** Patients with severe TBI, who underwent standard treatment in a neurosurgical Intensive Care Unit, were prospectively followed up. The condition at discharge from hospital was assessed using DRS. The patients were called after 6 months after injury, and the outcome was assessed using DRS and Glasgow outcome scale extended (GOSE). The predictive validity of DRS at discharge and GOSE 6 months after injury was measured using the Spearman rank correlation coefficient. **Results:** A total of 88 patients with severe TBI were evaluated at the time of discharge. The follow-up data were available for 79 patients. All the patients were moderately disabled or worse (DRS 11–29) at the time of discharge. In terms of predictive validity, DRS at discharge was highly associated with the GOSE after 6 months (Spearman rho -0.746 , two-tailed at $P = 0.01$). **Conclusion:** DRS at discharge is an appropriate tool to extrapolate functional outcome in patients with severe TBI.

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Comparison of conventional technique with 'NO TOUCH' technique for extubation to assess the quality of emergence in patients undergoing transsphenoidal pituitary surgery

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Background: Predictable and smooth emergence is a major concern in neurosurgical patients. Pituitary surgery is no different as it also mandates a smooth and rapid emergence from anaesthesia. The association of nasal packing, difficult airway and trickling of blood in oropharynx makes extubation even more challenging. We hypothesise that switching off all anaesthetic agents following surgery and ventilating the patients undisturbed till the eye-opening or response to verbal commands with subsequent reversal of neuromuscular blockade and extubation is superior to conventional extubation technique. **Methods:** Two emergence techniques (conventional vs. 'NO TOUCH') were evaluated in 44 American Society of Anesthesiologists I-II patients undergoing TSS. In conventional method, after switching off all the anaesthetic agents, manual ventilation was done, neuromuscular blockade was reversed once tetralogy of fallot (TOF) ≥ 3 and trachea extubated. In 'NO TOUCH' method, ventilation was undisturbed till the patient responded, reversal was given when TOF ≥ 3 and extubated on fulfilment of extubation criteria. A 20-point scoring system was used to evaluate the quality of emergence. $SjvO_2$ was used to study the cerebral blood flow changes during emergence and extubation. **Results:** Quality of emergence score was significantly better in 'NO TOUCH' group (18.05 ± 1.17) as compared to the conventional group (13.45 ± 1.65 , $P = 0.001$) with no difference in time to emergence (9.77 ± 3.05 vs. 9.18 ± 2.08 , $P = 0.30$) and time to extubation (11.68 ± 3.68 vs. 10.64 ± 2.95 , $P = 0.46$) in the two groups. $SjvO_2$ values revealed hyperaemia ($SjvO_2 > 75\%$) during emergence in both the groups but was significantly less in the 'NO TOUCH' technique. **Conclusions:** The quality of emergence as a composite score of 20 points is significantly better with 'NO TOUCH' method as compared to the conventional method of extubation. There is significantly less hyperaemia during extubation with the 'NO TOUCH' technique.