Abstract
Background: The role of vagal nerve stimulation (VNS) in the treatment of refractory epilepsy is still evolving and requires precision through extensive description of acute and chronic results, adverse effects and complications in specific populations. Methods: We selected patients with refractory epilepsy subjected to VNS who had completed at least a 12-month followup and used descriptive and inferential statistics to review and assess the effects of VNS on seizure frequency/intensity, memory, alertness, mood, postictal recovery, and quality of life (subjective scale, QoL IE-31 inventory) as well as factors (gender, age, age of onset, time of surgery, stimulation parameters, seizure frequency and type) associated with clinical response. We describe stimulation parameters, complications and adverse effects compared to other series. Results: We selected 35 patients with age range of 5-48 years; 18 patients presented partial epilepsy and 17 generalized epilepsy. All procedures and wound healings were uneventful, and no infections were reported. Median reduction in seizure frequency was 55.65% (p <0.001). Four patients showed improvement of >90%. Two patients became seizure free, whereas seizure frequency increased in two patients. The subjectively qualified response to treatment was good in 33 patients. Mean global increase in QoL IE-31 Scale was 12.6 (p = 0.020) Improvements in memory, mood, alertness and postictal recovery period were documented. Only seizure type showed statistically significant association with clinical response. Adverse effects were transitory and responded to changes in stimulation parameters. Conclusions: VNS is a safe, feasible, well-tolerated and effective palliative treatment in appropriately selected cases of refractory partial and multifocal generalized seizures.

Keywords
Vagal nerve stimulation, refractory epilepsy.