

ABSTRACT:

Objective: Aneurysmal subarachnoid hemorrhage has a high mortality with significant impact on quality of life despite effective management strategies including endovascular treatment and/or microsurgical clipping. Although the modalities have undergone clinical comparison, they have not been evaluated on patient reported outcomes (PRO). The study compared endovascular versus microsurgical treatment using a PRO measure.

Methods: Cross-sectional telephonic survey of adult patients conducted at Hamad General Hospital, Doha-Qatar between 2017-19. Candidate study participants were identified from procedure logs and hospital electronic health records for endovascular treatment (N=32) vs microsurgical clipping (N=32) of cerebral aneurysm. The primary outcome measure was the short version of the Stroke Specific Quality of Life measure (SS-QoL). The secondary outcome measure was the screened clinician-reported Modified Rankin scale (MRS) for all screened patients (n=137). Mean scores were compared for the two treatment groups.

Results: The SS-QoL mean score was 4.23 (SD± 0.77) in endovascular treatment and 4.19 ± 0.19 in surgical clipping (p=0.90). In exploratory analysis, mean physical domain score was 3.17 ±0.60 vs 2.98 ±0.66 in endovascular treatment and surgical clipping groups respectively. Mean psychosocial domain scores were 4.43 ±0.85 vs 4.18 ±0.0.92, respectively. In multivariable analysis, none of the clinical variables were significantly related to SS-QoL except vasospasm irrespective of intervention received. In secondary outcome analysis, MRS score was higher for endovascular treatment (p=0.04).

Conclusions: Published evidence has supported clinical benefits of endovascular treatment for cerebral aneurysm treatment, but this study did not find any difference in patient-reported

outcomes. Future studies of treatments should include PRO to identify potential differences from the patient perspective.