

Healthcare expenditure

Healthcare expenditures and cost reduction have been under critical surveillance in all countries and are critical for policy-makers. This review aims at qualitatively and quantitatively analyzing the difference of hospital costs and length of stay between endovascular coiling versus neurosurgical clipping in ruptured intracranial aneurysms (RA).

MEDLINE, the Cochrane database, EMBASE and Web of Science database were searched and evaluated independently by two authors according to Newcastle Ottawa Scale (NOS) for cohort studies describing economic hospital cost or length of stay in patients with ruptured aneurysms.

A total of 8 studies were included describing 24,219 RAs treated with neurosurgical clipping and 24,962 RAs with endovascular coiling. Meta-analysis revealed that the total hospital costs (THC) were similar between coiling versus clipping in RA (SMD: -0.05, 95%CI: -0.12~0.22, I²=99%, P=0.50). Subgroup analysis showed that THC of clipping and coiling was similar in ruptured aneurysms in USA. However, in South. Korea, the THC of coiling was significantly higher than clipping. For the long run, 1-year medical costs of EVT was significantly lower than that of clipping in RA (SMD: 0.15, 95%CI: 0.05~0.25, I²=66%, P=0.005). In addition, the length of stay of coiled patients was significantly shorter than clipped patients (SMD: 0.29, 95%CI: 0.13~0.45, I²=96%, P<0.001).

Medical costs were region-specified. In USA, total hospital costs and 1-year medical costs were similar in RA patients treated with endovascular coiling and neurosurgical clipping. However, in countries like S. Korea and China, coiling was more expensive. The length of stay was much shorter in coiled patients in all countries ¹⁾.

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Zhang X, Li L, Hong B, Xu Y, Liu Y, Huang Q, Liu J. A Systematic Review and Meta-analysis on Economic Comparison between Endovascular Coiling versus Neurosurgical Clipping for Ruptured Intracranial Aneurysms. World Neurosurg. 2018 Feb 21. pii: S1878-8750(18)30349-8. doi: 10.1016/j.wneu.2018.02.078. [Epub ahead of print] Review. PubMed PMID: 29476995.

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