

Different types of percutaneous endovascular interventions for acute ischemic stroke

Acute ischemic stroke (AIS) is characterized by a rapid decrease in blood supply to the brain, resulting in neurological impairment. Several percutaneous arterial endovascular techniques have been developed for the treatment of AIS, however the best therapy remains unknown. The purpose of this systematic review was to examine the safety and effectiveness of several percutaneous treatments for AIS.

A systematic search of numerous databases up to May 2022 was conducted to locate four suitable randomized controlled trials (RCTs) that compared diverse therapies. Two of these studies, with a total of 651 patients, compared thrombo-aspiration with stent-retriever thrombectomy. According to Cochrane's risk of bias assessment, the quality of evidence for both studies was excellent.

The meta-analysis found no statistically significant differences between thrombus-aspiration and stent-retriever thrombectomy in terms of the rate of modified Rankin Scale (mRS) of 0 to 2 at three months, modified Thrombolysis In Cerebral Infarction (mTICI) of 2b to 3 postprocedure, all-cause mortality within three months, rate of intracranial hemorrhage on imaging at 24 hours, rate Both therapies were shown to be safe and effective.

Furthermore, in two other investigations, combination treatment was compared to stent-retriever thrombectomy or thrombus-aspiration alone, and no significant changes were detected between the combined group and any intervention used alone.

In conclusion, our study found no significant differences in safety and efficacy between thrombus-aspiration and stent-retriever thrombectomy for treating AIS based on the existing data. Furthermore, combining both therapies did not provide a distinct advantage over each strategy alone. However, further high-quality RCTs are required to offer more data and further improve the ideal technique for AIS therapy.