EFICACIA Y SEGURIDAD DE LA TROMBECTOMÍA MECÁNICA MEDIANTE STENTS RETRIEVERS EN EL TRATAMIENTO DEL ICTUS ISQUÉMICO AGUDO

Spanish full text

SUMMARY

Introduction: In Spain, acute ischaemic stroke is an important cause of morbidity and mortality, with an annual incidence of 118 cases/100 000 population and a mortality of 29 cases per 100 000 population/year. Currently, the treatment of choice for stroke is recombinant tissue plasminogen activator (rtPA) administered by intravenous route 3 to 4.5 hours after symptom onset. Yet, only around 2% of patients with acute ischaemic stroke receive this treatment and, moreover, rtPA therapy proves ineffective in 21% of cases. Consequently, mechanical thrombectomy performed with various devices (Merci®, Penumbra®, etc.) has come to be seen as a therapeutic option for patients who are not candidates for rtPA or in whom rtPA has failed. With the aim of improving the clinical outcomes achieved with these devices, stent retrievers have recently been developed (Solitaire™, Trevo® and Revive™).

Objectives: To analyse the efficacy and safety of mechanical thrombectomy with stent retrievers in the treatment of acute ischaemic stroke.

Methods: A systematic review was made of the scientific literature in the following databases: Centre for Reviews and Dissemination (CRD); Cochrane Library; Pubmed; EMBASE; ISI Web of Science; *Índice Médico Español* (*IME*); Scopus; and ClinicalTrial.gov. The search was conducted in September 2013, with a subsequent update until February 2014. Two independent reviewers selected the papers in accordance with a series of pre-established inclusion/exclusion criteria. The data were summarised in evidence tables, and the methodological quality of the studies was assessed using the system developed by the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group. To obtain a pooled measure of the variables of interest, we performed a meta-analysis in the case of randomised clinical trials (RCTs) using the Review Manager programme version 5.2 and calculated means±SDs weighted by sample size for the case series using the SPSS statistics programme.

Results: Based on the pre-defined inclusion and exclusion criteria, 17 primary studies were finally selected. A breakdown by epidemiological design showed that 2 were RCTs which compared the Solitaire™ and Trevo® devices to the Merci® device, 3 were comparative series which assessed stent retrievers with respect to rtPA or Merci®, and 12 were case series which addressed different stent retrievers. According to the GRADE system, the cases series displayed very low quality for all the variables of interest, due to the fact that they were studies without a control group. In the case of RCTs, the presence of methodological limitations meant that quality was moderate for most of the variables of interest. The RCTs indicated that stent retrievers had a safety profile similar to that of the Merci® device. Both Solitaire™ and Trevo® obtained a higher percentage of successful recanalisation and acceptable clinical outcomes at 90 days, while mortality at 90 days was similar in both groups. In terms of effectiveness, the results yielded by the pooled analysis of the case series were similar to those previously described. The only assessable variable of safety was symptomatic haemorrhage, which registered a percentage slightly higher than that reported in the controlled studies.

Conclusions: Available scientific evidence, albeit with certain methodological limitations, suggests that stent retrievers are safe and effective devices which allow for high revascularisation rates and good clinical results to be achieved in patients with acute ischaemic stroke due to intracranial artery occlusion.

DE ASIS A COMPOSTELA
800
1214 · 2014