Abstract

Infective endocarditis (IE) is a life-threatening disease. Cerebral embolization complicates the course in 10-40% of IE episodes. Aims of study were to investigate the frequency of cerebrovascular complications (CVC) in left-sided IE and the influence of protective and risk factors with focus on antiplatelet and anticoagulant therapy.

CVC rate was examined by repeated magnetic resonance imaging of the brain and by assaying levels of brain damage markers in cerebrospinal fluid in 60 IE patients in paper I. The overall CVC frequency was 65%, with 35% of the patients experiencing neurological symptoms and 30% characterized as having clinically silent CVC. The risk of neurological deterioration during cardiac surgery after established cerebral embolism was low.

In paper II the relationship between symptomatic CVC and established use of antiplatelet therapy was evaluated in 684 definite left-sided IE episodes. Antiplatelet agents were used by 23% of the patients. These patients were older and more often had a history of congestive heart failure. In 25% of all episodes a CVC was seen. There was no statistically significant difference in CVC rate between patients with and without previously established antiplatelet therapy (24% vs. 25%, n.s.). Twelve-month mortality was significantly higher for patients on previously established antiplatelet therapy in the univariable analysis (34% vs. 24%, OR 1.6, 95% CI 1.1-2.4), but after adjustment for covariables the use of antiplatelet therapy was no longer a risk factor.

The association between ongoing warfarin therapy and CVC incidence in native valve endocarditis (NVE) was analyzed in paper III. Out of 587 NVE episodes 8% were seen in patients using warfarin on admission. Patients on warfarin suffered from CVC significantly less frequently than patients not on warfarin (6% vs. 26%, 0.2 95% CI 0.06-0.6). In a multivariable model S. aureus etiology (adjusted OR [aOR] 6.3, 95% CI 3.8-10.4) and vegetation length (aOR 1.04, 95% CI 1.01-1.07) were associated with higher CVC frequency. Warfarin use (aOR 0.26, 95% CI 0.07-0.94), history of congestive heart failure (aOR 0.22, 95% CI 0.1-0.52) and previous IE episode (aOR 0.1, 95% CI 0.01-0.79) conferred a lower risk of CVC. Cerebral hemorrhagic complications were few.

Keywords: Infective endocarditis (IE), cerebral embolism, cerebrovascular complications, antiplatelet therapy, anticoagulation, warfarin, vegetation, Staphylococcus aureus, mortality

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Cerebral complications in infective endocarditis

AKADEMISK AVHANDLING

som för avläggande av medicine doktorsexamen vid Sahlgrenska akademin vid Göteborgs Universitet kommer att offentligen försvaras i föreläsningsallen, Infektionskliniken, Sahlgrenska Universitetssjukhuset/Östra

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av

Ulrika Snygg-Martin
Leg. läkare

Fakultetsopponent
Docent Bengt Gårdlund
Karolinska Institutet
Stockholm

Avhandlingen baseras på följande delarbeten:

