Predictors of systemic embolism and mortality in infective endocarditis

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Background: As one of the complications of infective endocarditis (IE), embolization has a great impact on the patient's prognosis. Previous studies that attempted to identify baseline clinical, laboratory and echocardiographic predictors of embolization led to conflicting results.

Objectives: To assess the value of clinical, laboratory and echocardiographic variables in predicting embolic events and in-hospital mortality in patients with definite left-sided IE.

Methods: This prospective study involved 99 patients with definite left-sided IE recruited from the prospective IE database of Cairo University Hospitals. TTE was performed in all patients. TEE was performed in 62.6% of the patients.

Results: Embolization occurred in 40.4% of patients during index hospitalization. Female gender was a highly significant risk factor for embolization (p = 0.003). The only echocardiographic variable useful in predicting embolization was vegetation length (p = 0.003). At a cut-off value of 2.095 cm, the sensitivity for predicting embolization was 50%, specificity 69.1% and positive predictive value 52.8%. Female gender was a highly significant risk factor for embolization (p = 0.003). Juvenile age was a significant risk factor for embolization (p = 0.04). At a cut-off value of 2.095 cm, the sensitivity for predicting embolization was 50%, specificity 69.1% and positive predictive value 52.8%.

Conclusions: This study clearly shows that female gender is a highly significant risk factor for embolization, and that vegetation length is a useful predictor of embolization in females and in native valve IE. Atrial fibrillation/flutter, not having surgery, advanced heart failure and fulminant sepsis are all useful predictors of mortality, which allows identification of high-risk patients in whom an aggressive strategy will be potentially useful.

Novel biochemical diagnostic methods for cerebral embolism in the course of infective endocarditis

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Cerebral embolism (CE) in the course of infective endocarditis (IE) increases risk of death and influences on therapeutic decisions. In diagnosis of CE, except of brain imaging methods, some specific markers of cerebral damage are being searched for. Such novel markers are protein S100B, neuronal specific enolase (NSE) and procoagulation markers E- and P-selectins.


Material and Methods: Study was performed on IE pts, diagnosis was established according to the Duke criteria. Evaluation of levels of S-100 protein, NSE, E- and P-selectin (3-times: in 0, 3, 5 day) were done.

Results: In Group I patients were younger, 54 vs 61 years, and more frequently intravenous drug users (44.2% vs 27.8%, p = 0.01). There was no statistically significant difference between the two groups neither in mode of acquisition of IE nor on the proportion of P with rheumatic heart disease, prior IE, prosthetic valve or valvular disease, type of agents isolated or in mortality.

Conclusions: The prevalence of IE in the studied population was 0.05% and there were significant epidemiological differences between the P admitted in the different periods studied. In group of P admitted in the last 5 years of study, there was a higher percentage of cases of IE in immunocompromised P in P with cancer and with intra-cardiac devices. In this group there was a higher proportion of P referred for valvular surgery, with no impact on mortality.

Update on an important disease - infective endocarditis

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Objective: To analyze changes in microbiological, echocardiographic, clinical and prognostic profile of infective endocarditis (IE) in the last 12 years.

Methods: We analyzed 729 consecutive episodes of IE. They were recruited prospectively at three tertiary referral centers between 1996 and 2008. They were classified into 2 groups: Group I (n=363), episodes of IE registered between June 1996 and December 2001, and Group II (n=366), episodes of IE registered between January 2002 and May 2008.

Results: In Group I patients were younger, 54 (16) vs 61 (16) years, and more frequently intravenous drug users (VDU) (12.7% vs 4.9%, p=0.001). Community acquired infections and previous cardiac disease (58% vs 71.6%; p=0.001) were more common in Group II. Prosthetic valve IE (28.5% vs 42.1%; p=0.001) was more frequent in Group II. Comorbidity was more common in Group II: diabetes (14.4% vs 23.1%, p=0.002), chronic anemia (12.7% vs 21.5%, p=0.002), renal failure (5.8% vs 11.9%, p=0.004), and neoplasia (5.3% vs 11%, p=0.005).

In Group II, coagulase negative Staphylococcus (14.4% vs 20.8%, p=0.029) was isolated more commonly. At admission, fever, constitutional syndrome, and pulmonary and rheumatologic presentations were more frequent in Group I, whereas in Group II cardiac and abdominal presentations were more common. During hospitalization, septic shock (12.7% vs 18%; p=0.021) was observed more frequently in Group II. There were no differences in perianular complications, heart failure, valvular dysfunction, persistent infection and embolism. The need of cardiac surgery was higher in Group II (49.3% vs 58.7%; p=0.011). No differences were observed in hospital mortality (28% vs 28%).