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PREVENTIVE HEALTH IN A CHANGING WORLD

RISK FACTORS CONTRIBUTING TO HAEMORRHAGIC TRANSFORMATION IN PATIENTS WITH ISCHAEMIC STROKES

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Background

There is an increasing burden of ischaemic stroke globally. The incidence of spontaneous haemorrhagic transformation (HT) in ischaemic stroke patients ranges from 13% to 71%. We sought to identify risk factors contributing to haemorrhagic transformation in patients admitted to Changi General Hospital with ischaemic strokes.

Methods

We conducted a retrospective cohort study of patients admitted to Changi General Hospital with a primary diagnosis of ischaemic strokes, from 2009 to 2016. All clinical data was derived from hospital databases and case note reviews. The primary outcome was defined as whether patients developed haemorrhagic transformation as determined by CT scan. Bivariate and multi-variate analyses were carried out to determine independent risk factors.

Results

A total of 527 patients were analysed. In bivariate analysis, older age of patients, use of Recombinant Tissue Plasminogen Activator (rtPA) medication, pre-morbid use of aspirin, warfarin, comorbidities such as ischaemic heart disease, atrial fibrillation and low total cholesterol level and low density lipoprotein levels were significantly associated with HT. Higher potassium levels were also significantly associated with HT. The Multiple logistic regression model adjusting for potential confounding factors concluded that presence of atrial fibrillation (OR 8.69, 95%CI 4.7-16.1) and use of rtPA (OR 2.58, 95%CI 1.2-2.7) were independently associated with HT.

Conclusion

Due to increased risk of HT, patients with known previous AF and specially receiving rtPA should be informed regarding the risk of HT and possible complications associated with it.