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Transient Ischemic Attack: Definition, Risk, and Management

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Definition of transient ischemic attack (TIA) has been evolving from time-based (symptom duration less than 24 hours) to tissue-based (no evidence of ischemic lesion) criteria. However, diagnosis of "transient neurological symptoms" as "TIA" is still challenging and complicated. Common "TIA-mimics" are seizure, migraine, syncope, anxiety and peripheral vertigo. It is also important to identify "TIA-mimics", to avoid unnecessary and expensive investigations, and inappropriate long-term prevention treatment.

Clinical significance of TIA is that it may precede ischemic stroke (15~30%). Early (~90 day) risk of stroke recurrence has been variably reported (2~15%), and more than half of stroke may occur within 1~2 days, therefore urgent diagnosis and treatment is critical. DWI lesion, large-artery (carotid or intracranial vessel) stenosis and crescendo TIA are well known predictors for stroke recurrence. ABCD2, a widely used risk prediction score, does not inform of a causative vascular mechanism. Although it may be good at predicting the "natural history" of untreated TIA patients, this prediction will be less relevant for patients who are quickly evaluated. Other risk scores, incorporating DWI or carotid imaging (ex, ABCD3-I), have been validated for more accurate predictability.

Management of TIA (rapid work-up and optimal treatment) has advanced markedly over the past decade, therefore the incidence of recurrent stroke tends to decrease. Immediate aspirin (300 mg) is the standard therapy if hemorrhagic stroke is excluded. Dual antiplatelet therapy (aspirin with clopidogrel) may be considered in case of severe large-artery stenosis or crescendo-TIA. Additional statins are also recommended in this situation. Revascularization (endarterectomy or stent) may be indicated if carotid stenosis is significant. Warfarin or NOACs may be started immediately if non-valvular atrial fibrillation is documented.

It is essential to identify TIA promptly and correctly because of the early risk of ischaemic stroke, requiring urgent investigation and preventive treatment.

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