TCS/17/06 – TriMethS – A novel urinary biomarker for minor stroke and transient ischaemic attack

We have identified a novel molecule (a trimethylamine derivative, called TriMethS). It is found more commonly and at elevated levels in the urine of patients with stroke and transient ischaemic attack (TIA) compared to patients with suspected stroke who turn out to have an alternative diagnosis (called a “mimic”). About half of patients referred with suspected minor stroke or TIA have a mimic and sometimes it is hard to discriminate. It is important to make this distinction. People with minor stroke or TIA need preventative treatment to reduce the risk of a disabling stroke. We want to find out if TriMethS levels can be used to help us make the correct diagnosis of stroke/TIA. We will study levels of TriMethS in 300 people referred with suspected minor stroke and TIA. All particpants will be verified as having suffered minor stroke/TIA or a mimic. We will assess whether knowledge of TriMethS levels improves diagnostic accuracy and whether levels are related to long term outcomes. We also perform further experiments to elucidate the role of TriMethS and will begin developing simple methods for the measurement of TriMethS in the NHS.