

WSC Abstract (max 250 words)

The effect of transdermal glyceryl trinitrate on imaging characteristics in acute ischaemic stroke: data from the Efficacy of Nitric Oxide in Stroke trial

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Background:

Transdermal glyceryl trinitrate (GTN) given within 6 hours of stroke onset improved functional outcome in a subgroup of the Efficacy of Nitric Oxide in Stroke (ENOS) trial. We sought to assess GTN's effects on imaging characteristics in those with an ischaemic stroke.

Methods:

ENOS randomised 4011 patients with acute stroke and raised systolic blood pressure to transdermal GTN or no GTN within 48 hours of onset. Imaging was acquired at baseline and at day 7 and adjudicated by trained neuroradiologists, using a set proforma, blinded to treatment. Data are odds ratios (OR) with 95% confidence intervals (CI) adjusted for baseline prognostic factors and imaging.

Results:

58 patients who were randomised within 6 hours of onset had a final diagnosis of ischaemic stroke and available imaging at both baseline and day 7; 37 were randomised to GTN, 21 to no GTN. At day 7, loss of grey-white matter definition and periventricular white matter lucencies were less commonly seen in those randomised to GTN compared with no GTN (OR 0.20, 95%CI 0.04-0.89, $p=0.035$; OR 0.26, 95%CI 0.07-0.96, $p=0.042$). A non-significant tendency towards reduced loss of basal ganglia outline was seen in those randomised to GTN compared with no GTN (OR 0.14, 95%CI 0.02-1.38, $p=0.09$).

Conclusions:

GTN improved imaging characteristics of cerebral ischaemia at day 7 when administered within 6 hours of stroke onset. The ongoing Rapid Intervention with Glyceryl trinitrate in Hypertensive stroke Trial-2 (RIGHT-2) will provide further detail on GTN's effects on imaging characteristics in acute stroke.