Early Remote Ischaemic Conditioning in Acute Stroke is Safe and Feasible

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Introduction:

Despite best medical management, high-risk transient ischaemic attack (TIA) and acute ischaemic stroke are associated with early neurological deterioration (END), recurrent strokes and death. Furthermore, the risk of END and recurrent stroke is highest in the first week persists for 12 weeks.

Remote ischaemic conditioning (RIC) involves brief-cyclic ischaemia and reperfusion of a distant organ (upper arm muscles) to protect at-risk (cerebral tissue) organ tissue by increasing ischaemia tolerance.

Hypothesis

Caregiver/Patient delivered early RIC therapy for 12 weeks in high-risk TIA/acute ischaemic stroke patients will be safe and feasible.

Methods

Adult TIA and ischaemic stroke patients presenting within first 48 h

Eligible patients will include:

1. High-risk TIA patients
2. Acute ischaemic stroke patients with mild-to-moderate neurological deficits
3. Presence of at least one vascular risk factor

Results

Variable	Four Cycles	Six Cycles
Number of patients	29	31
Age, years $\pm$ SD	58.5 $\pm$ 12.5	61.8 $\pm$ 12.5
Baseline NIHSS med(IQR)	5(3-8)	3.5(2-7)
Transient Capillary Fragility	2	2
Stopped Intervention	4	1
Mortality	0	1

Serial Infarct Volume Change

Endothelial Dependent Flow Mediated Vasodilation

Ankle Brachial Index

Conclusion:

- Patients themselves or their care givers are able to deliver RIC therapy effectively to ischaemic stroke patients over period of three months.
- Patients with low platelets (<2 lakhs/cmm) have capillary fragility
- Need of a multicenter RCT with 4 cycles

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Clinical Trial Registration number:

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