

Intravenous Thrombolysis in Acute Ischaemic Stroke

Acute Ischaemic Stroke

In an acute ischaemic stroke, the blood flow to a part of the brain is interrupted because of sudden blockage of a blood vessel. The blockage is usually due to a blood clot and it stops the oxygen and nutrients from reaching the brain tissue and as a result the brain cells die, which may lead to permanent functional loss, e.g. slurring of speech, language impairment, numbness or weakness etc.

Thrombolysis as a treatment option

Intravenous thrombolysis works by dissolving the clot and improving blood flow to the part of the brain being deprived of blood flow. Studies showed giving thrombolysis as quickly as possible **within 4.5 hours of onset** in selected ischemic stroke patients may increase chance of reopening of the blocked vessel(s), thereby reducing the degree of brain tissue damage and improve patient's functional outcomes.

Potential Benefits

Studies showed earlier thrombolytic therapy in acute ischemic stroke is associated with better outcome.

For patients treated with thrombolytic therapy:

Within 3 hours of stroke onset:

- For **every 7** treated patients, **1** patient will achieve a good outcome with no significant disability.
- Comparing to those not receiving thrombolytic therapy, **32%** of treated patients will have better functional outcome.

Within 3 and 4.5 hours of stroke onset:

- For **every 14** treated patients, **1** will achieve a good outcome with no significant disability.
- Comparing to those not receiving thrombolytic therapy, **16%** of treated patients will have better functional outcome.

Studies also revealed that the thrombolytic therapy in acute ischemic stroke patients will not increase the overall death rate.

Potential Risks

The action of thrombolysis is to reopen the blocked vessel by dissolving the blood clots. This may alter normal clotting function and result in bleeding or other complications, including:

- Bleeding in the brain (1.2% - 6.8%)
- Major bleeding in other parts of the body (<2%)
(Including gastrointestinal/ urinary tracts, skin, and soft tissues)
- Allergic reactions (1 - 5%)
e.g. angioedema (swelling of lips, tongue and throat) which may cause airway swelling and tracheal intubation may be needed to protect airway

Important Point to Note

- Earlier thrombolytic therapy in acute ischemic stroke patient is associated with better outcome. The effect of thrombolysis diminishes with time.
- Although thrombolytic therapy may increase chance of recovery, its effect is dependent on whether the blocked vessels can be reopened and other concomitant conditions. The treatment outcome is not guaranteed.
- If the patient is not eligible or decides not to receive the thrombolytic therapy, the patient will continue to have the standard stroke care.

Disclaimers

This is general information only and the list of complications is not exhaustive. The actual risk may vary among individuals. If a complication develops, another life-saving procedure or treatment may be required immediately. For further information, please contact our medical staff.