

“Hydrogen water reduces NSE, IL-6, and TNF- α levels in hypoxic-ischemic encephalopathy” (2016)

This study asked: Could hydrogen water help protect the brains of newborn babies after oxygen deprivation at birth? First – what is hypoxic-ischemic encephalopathy (HIE)? That is a very long medical name for: Brain injury caused by lack of oxygen around birth. This can happen if:

- oxygen supply is interrupted during labour or delivery
- the baby experiences birth complications
- blood flow to the brain is reduced.

In serious cases, HIE can lead to: 🧠 developmental problems 🧠 movement difficulties 🧠 seizures 🧠 learning disability 🧠 cerebral palsy.

What was the goal?

Researchers wanted to know: Could hydrogen water reduce brain damage and inflammation in newborns with HIE?

How was the study done? Researchers studied: 40 newborn babies with HIE

They split them into:

Group 1: Standard medical treatment only

Group 2: Standard treatment + hydrogen water

The hydrogen group received:

Hydrogen-rich water daily for 10 days in addition to normal hospital treatment.

Researchers then looked at:

🧠 recovery signs 🩺 inflammation markers in blood 🧠 MRI brain scans.

What are NSE, IL-6 and TNF- α ?

These are biological markers of brain stress and inflammation. NSE. This is:

A marker of brain cell injury Simple rule: ⬆️ Higher NSE = more brain damage

⬇️ Lower NSE = less brain injury.

IL-6 & TNF- α These are: Inflammation signals Think of them as: 🔥 the body’s “inflammation alarm system.” When very high: They can worsen injury after oxygen loss.

Main findings

✅ Lower inflammation markers Babies receiving hydrogen water had: Lower IL-6 and TNF- α levels compared with standard treatment alone. The inflammation response appeared lower.

✅ Lower marker of brain injury

Lower NSE levels in the hydrogen group. There were signs of less brain cell damage.

✅ Faster clinical recovery. The hydrogen group appeared to improve faster in areas such as:

✅ muscle tone ✅ reflex recovery ✅ seizure control ✅ consciousness/recovery signs.

Some babies appeared to recover more quickly.

✅ Better MRI improvement. MRI brain scans suggested:

Greater improvement in the hydrogen group.

Meaning: Brain tissue may have recovered better after injury.

Hydrogen water may help protect the brain and reduce inflammation in newborns after oxygen-related brain injury.

To Read The Full Study

[CLICK HERE](#)

