

# Sequela cognitive nell'intossicazione acuta da idrogeno solforato. Descrizione di un caso clinico

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## KEY WORDS

Hydrogen sulphide; neuropsychological testing; NMR; SPET

## SUMMARY

**«Cognitive sequelae three months after hydrogen sulphide poisoning».** Background: Hydrogen Sulphide ( $H_2S$ ) is a highly toxic, colorless gas smelling of rotten eggs. It is used in several industries and is a product of many industrial processes such as oil refining, mining and rayon manufacture. Acute, non fatal  $H_2S$  intoxication at a concentration of 500 ppm, for few minutes, is followed by brain damage characterised by both immediate and permanent neurobehavioural deficits. Objectives: The present study describes the neurobehavioral effects of acute, non-fatal  $H_2S$  intoxication in a healthy 36-year-old male at the workplace. Methods: Three months after the acute poisoning, the subject was examined via a neurological examination, neuropsychological tests (Mini Mental State, Verbal Span Test, Digit Span Test, Bourdon – Wiersma Dot Cancellation Test, Benton Visual Retention Test, Somatognosia, Simple Visual Reaction Time, Simple Acoustic Reaction Time), Nuclear Magnetic Resonance (NMR), and Single Photon Emission Tomography (SPET). Results: The results showed a reduction of cognitive capabilities, depressive symptoms and personality changes even through the results of neurological examination and neuroimaging techniques were unremarkable. Conclusions: Neuropsychological testing is a key issue in neurotoxicology assessment, because conventional neurology has been shown to be insensitive to the chemical neurotoxic effects and neuroimaging techniques are often unclear.

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