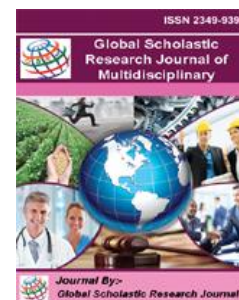




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### TOLUENE INTOXICATION IN CHILDREN

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#### Abstract

Toluene intoxication among children due to inhalation or exposure is common phenomenon and is usually managed conservatively without any mortality but Toluene ingestion among youngest children (<3yr) remain very uncommon though fatality among children due to severe inhalation resulting in cardiotoxicity and met hemoglobinemia is well documented in medical literature thus purpose of the study is to present these cases of accidental ingestion of Toluene among younger children . The present study of 27 cases of accidental ingestion of Toluene in dose of 10-20 ml ,attending the centre in lag period of 1-5 hours has recovered completely without any mortality and morbidity and any alteration in hemato-hepatic and renal function or neurological deficit .

**Key words:** Toluene, inhalation,ingestion ,Cardiotoxicity, Methemoglobinemia, respiratory depression,,vagal stimulation.

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**REFERENCES:**

1. Agency for Toxic Substances and Disease Registry (*September 2000*). Toxicological profile for toluene. Atlanta, GA: *Agency for Toxic Substances and Disease Registry*. OCLC 47129207.
2. Nakajima, T; Wang RS; Elovaara E; Gonzalez FJ; Gelboin HV; Raunio H; Pelkonen O; Vainio H; Aoyama T (1997-02-07). "Toluene metabolism by cDNA-expressed human hepatic cytochrome P450". *Biochemical Pharmacology* **53** (3): 271–7. doi:10.1016/S0006-2952(96)00652-1. PMID 9065730.
- 3.. World Health Organization (1985). Environmental Health Criteria No. 52 (Toluene). Geneva: *World Health Organization*. ISBN 92-4-154192-X.
4. Tassaneeyakul, W; Birkett DJ; Edwards JW; Veronese ME; Tassaneeyakul W; Tukey RH; Miners JO (January 1996). "Human cytochrome P450 isoform specificity in the regioselective metabolism of toluene and o-, m- and p-xylene". *Journal of Pharmacology and Experimental Therapeutics* **276** (1): 101–8. PMID 8558417.
5. Urban, P; Lukáš E; Pelclová D; et al. (2003). "Neurological and neurophysiological follow-up on workers with severe chronic exposure to toluene". *Neurotoxicity* **P25** (s130). ,
6. Cámara-Lemarroy CR, González-Moreno EI, Rodríguez-Gutierrez R, González-González JG. Clinical presentation and management in acute toluene intoxication: a case series. *Inhal Toxicol*. 2012 Jun. 24(7):434-8.
7. Yucel M, Takagi M, Walterfang M, Lubman DI. Toluene misuse and long-term harms: a systematic review of the neuropsychological and neuroimaging literature. *Neurosci Biobehav Rev*. 2008 Jul. 32(5):910-26
8. Shankar A, Toluene intoxication, clinical presentation and treatment, Hand Book Of Poisoning, Bhalani publishing House, Mumbai, 2<sup>nd</sup> edition