APAMT 2015

Asia Pacific Association of Medical Toxicology

14th International Scientific Conference

Perth, Western Australia
1-4 December 2015

Conference Program Handbook

Wiki Tox

Government of **Western Australia**
Department of **Health**

phebra

CHOICE OF ANTIDOTE METHIONINE USAGE ON PATIENTS WITH ACUTE PARACETAMOL POISONING IN THE SPECIALIZED TOXICOLOGY UNIT IN SRI LANKA

Pathiraja V.M. [1]; Gawarammana I.B[1, 2]; Dawson A.H[1, 3]

[1]South Asian Clinical Toxicology Research Collaboration, Sri Lanka,
[2]Faculty of Medicine, University of Peradeniya, Sri Lanka,
[3]Royal Prince Alfred Clinical School, University of Sydney, Australia

Objective: This study was carried out to evaluate the choice of antidote, oral methionine, 4 doses of 2.5g q4h or intravenous N acetylcysteine (iv NAC) 300mg/kg over 20 hours in the treatment of acute paracetamol overdose. Both drugs are on the World Health Organization drug list for treatment of paracetamol poisoning.

Method: This is a retrospective consecutive case series of acute paracetamol poisoning presenting between January 2013 and June 2015 to Toxicology unit, Teaching Hospital Peradeniya, Sri Lanka. The choice of treatment was with the admitting medical officer. We analyzed records of patients for treatment received, toxicity and recorded adverse effects.

Results: There were 916 patients (609 female) with an acute paracetamol overdose including 406(44.32%) direct admissions and 509(55.56%) transfers. Median age was 20(IQR=24-17). 87 patients (9.50%) were treated with methionine, 195(21.28%) patients were treated with NAC and 634(69.21%) patients were not treated with an antidote. There is a significant difference ($P<0.05$) in duration of hospital stay, time to admission and ingested dose between methionine and NAC treated patients (Table1). Patients with persistent nausea and vomiting were given intravenous fluid replacement. Antiemetics were given to 96(49.23%) in NAC group and 41(47.12%) in methionine group. Four patients on NAC treatment were changed to methionine due to anaphylactic reactions. One patient on methionine was changed over to iv NAC due to vomiting and discovery of pregnancy during treatment in another. Minor adverse events like headache, faintishness, drowsiness etc. occurred in 28.68% in NAC group. Methionine group showed headache, dizziness, faintishness, drowsiness etc. in 27.43%. Forty eight (55.17%) vomited before treatment and 11 vomited after treatment in methionine group. 140(71.8%) vomited before and 25(12.82%) vomited after treatment in the NAC group. Vomiting prior to antidote treatment was more likely in the group who were assigned to NAC [OR 0.48 (95%CI 0.28 0.82)]. This group had ingested a larger dose of paracetamol. There was no difference in the proportion of patients who vomited after treatment with either NAC or Methionine, [OR 0.98 (95%CI 0.46 2.10)]. No Liver failure, renal Impairment and death occurred in either group.

Conclusion: Oral methionine is still considered a treatment option in paracetamol poisoning. It is well tolerated and can be administered in remote circumstances after paracetamol poisoning. The treatment protocol for oral methionine is simple, and therapy is completed within 12 hours compared to NAC. Admitting medical officers consider methionine as a treatment option despite iv NAC being available.

Table 1:

	Number		Age (yrs)	Ingested dose (g) Median IQR	Dose/kg Median IQR (mg/kg)	Time to admission (hrs)	Median duration of hospital stay (hrs)
	Male	Female					
No Antidote	199	435	20 (IQR=24-17)	7.5 (IQR=11.5-5)	166.7 (IQR=255.6-111.1)	4.83 (IQR=11.33-2.58)	40.75 (IQR=50.68-24.23)
NAC	76	119	20 (IQR= 24 - 18)	15 (IQR=20.75-11.5)	328.6 (IQR=453.5-239)	4.91 (IQR= 10.50-2.22)	51.42 (IQR=71.83 - 42.92)
Methionine	32	55	19 (IQR=22-17)	12 (IQR=15-9)	240 (IQR=300-208)	3.5 (IQR=5.17-1.830	43.17 (IQR=48.5-27.33)
Total	307	609					
	916						