Acetaminophen Overdose and N-acetylcysteine Therapy

Dear Editor,

I read with interest the case report by Sule et al,[1] published in the February 2006 issue of the journal. They reported a case of massive ingestion of paracetamol, successfully managed by a 3-day infusion of N-acetylcysteine. They concluded that a modified 3-day regime is safe and efficacious.

Prolonged infusion of N-acetylcysteine for treatment of significant acetaminophen overdose is not new and has been in use for quite sometime. Although there are no studies assessing these regimes, extended regimes have been recommended for a few cases of significant overdose.[2,3] Since May 2003, the extended regime has been used in our local setting, depending on the severity of the overdose (significant coagulopathy or transaminitis persisting longer than expected). We usually carry out the last 16 hours of the infusion regime (100 mg/kg) continuously until there are signs of improvement, particularly with the coagulation [declining international normalised ratio (INR)] and the liver profiles. To date, we have not encountered any problem with such therapy. We do not follow a fixed duration of infusion as suggested by Sule et al. Although almost all of the cases of acetaminophen overdose in our setting were insignificant and no mortality encountered to date, the use of an extended regime for selected cases is particularly important in a setting such as ours where option of liver transplantation is not available and death due to hepatic failure is a possibility. However, one has to be aware of the potential adverse effects of N-acetylcysteine. N-acetylcysteine itself is associated with an increase in prothrombin time that is not related to the hepatotoxic effect of acetaminophen.[4,5]

The case report represents an important lesson, but there is few important aspect of management that was not highlighted. Firstly, it is very important to get additional information to substantiate the history by further questioning or from collaborative sources. When histories are revisited with the patient or an informant, there are often inconsistencies with the original account, regarding the dose, time of ingestion and reasons for ingestion. I wonder whether this might have been the case in this report as it is unlikely that after ingestion of such high dose, supported by the high serum level, there were no abnormalities at all in the liver function tests and coagulation profiles over the next few days. The fact that the patient was very alert on examination despite consuming a significant amount of codeine may also suggest that the original account needs to be clarified. Despite these, in cases where there may be doubt about the actual timing and dose of ingestion, we would have done the same thing, err on the side of caution and treat. Secondly, it is very important that such patient be referred for psychiatric evaluation or counseling, considering that deliberate self-harm with such a significant number of tablets had occurred.

REFERENCES

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