

Acute aluminium phosphide poisoning: Can we predict survival?

Sir,

I read with interest the study conducted by Mathai and Bhanu published in your journal.^[1] So far, several similar studies have been performed to determine the risk factors of mortality among aluminium phosphide (ALP)-poisoned patients. Almost all of these studies have shown that the more the patient is ill on admission, the higher is the risk of death.^[1-4] But, I

think that in this poisoning with such a high mortality rate, we should be able to predict the probability of survival instead of prediction of death. In other words, when the conscious ALP-poisoned patient or his/her relatives ask whether he/she would survive, we should be prepared to answer this question. I think this question is easy to be answered and depends on the fact that the lesser is the liberated phosphine from the tablets in the stomach, the higher is the survival rate. Therefore, if the patient vomits immediately after the ingestion due to the unpleasant taste and odor of the tablet, he/she will possibly survive.^[4,5] But, vomiting occurring in concordance with other signs and symptoms of poisoning can be a sign of severity of the poisoning and cannot predict the probability of survival. Also, if the patient has dissolved the tablet in water before ingestion [Figure 1], he/she is most likely to survive. This is because a great part of the phosphine gas has escaped before its consumption. Interestingly, some studies have shown that there is no association between ALP-ingested dose and mortality rate.^[2] The question is, "Why?" This depends on the physical characteristics of the ALP tablets. In other words, if we have access to a sample of the ingested tablet [Figure 1], we can determine from the pores on its surface whether that tablet has been exposed or not and, therefore, predict the probability of the patient's survival.^[6] In countries such as Iran, where ALP tablets are also known as rice tablets, its similar components are manufactured from the herbal materials that are not dangerous and will not cause death. Thus, if the patient has ingested from the latter type of the rice tablet, he/she will definitely survive.^[6] In conclusion, if the patient has ingested a small amount of the tablet, has vomited immediately after the ingestion, has dissolved the tablet in water before its consumption and has used a herbal tablet or an exposed tablet whose phosphine gas has previously been eliminated, he/she



Figure 1: Tablets of aluminium phosphide: (a) in water while releasing phosphine gas, (b) just placed and (c) exposed form (porous feature)

will more likely survive. Elapsed time between the ingestion and hospital presentation as well as proper supportive care should certainly not be forgotten.

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