

Letter to the Editor

Be careful in the operating room! Formaldehyde tablets in the chewing gum box

Dear Sir,

When I entered ocular surgery room, I saw a tin gum box near the anesthesia machine. As I was about to put one of them to my mouth I suspected the unusual smell of the gum. After my little inquiry I learned that they were paraformaldehyde (PF) tablet (Fig. 1a and 1b).

Formaldehyde (F) gas is used successfully for the cold sterilisation of surgical instruments. It is a versatile, fast, economical and effective alternative for sterilisation. But, its usage is restricted or forbidden in many countries. Surgical instruments keep in a closed plastic container containing 10 g of PF for about twenty minutes. PF generates F gas spontaneously by depolymerisation. The instruments are thoroughly rinsed with sterile water after sterilisation.^[1]

Accidental ingestion of PF is rare because of strong irritating effect and odour. Although its pH is neutral, it has corrosive effect on gastrointestinal system as both acid and alkali. Gastrointestinal effects of PF are due to necrotic effects, such as mucosal burns, ulcers, perforations, stricture formation. It may cause liver and kidney damage, jaundice, albuminuria, hematuria, anuria, acidosis, convulsions, central nerve system depression, cardiac failure.^[2,3] After ingestion, the first aid should

be done and stomach contents should be diluted with water or milk. There is no antidote. So the treatment is supportive and symptomatic.^[2]

The operating room (OR) staff who involved in sterilizing instruments should be well educated and careful about the procedure and instructions for proper cleaning and sterilizing of re-usable ocular instruments.^[4] Luckily I did not swallow PF tablet that I had supposed to be a gum. I warned the OR staff and nurse for being careful about these kind of habits which can result in inadvertent accidents. Now we are storing PF tablets in their proper box that discriminates them from the other materials (Fig. 1c).

Kerem Erkalp, M.D.

Haluk Özdemir, M.D.

Department of Anesthesiology and Reanimation,
Vakıf Gureba Training Hospital, Istanbul, Turkey.

References

1. Lubbe AM, Henton MM. Sterilisation of surgical instruments with formaldehyde gas. *Vet Rec* 1997;140:450-3.
2. Pandey CK, Agarwal A, Baronia A, Singh N. Toxicity of ingested formalin and its management. *Hum Exp Toxicol* 2000;19:360-6.
3. Binding N, Witting U. Exposure to formaldehyde and glutardialdehyde in operating theatres. *Int Arch Occup Environ Health* 1990;62:233-8.
4. Unal M, Yucel I, Akar Y, Oner A, Altin M. Outbreak of toxic anterior segment syndrome associated with glutardialdehyde after cataract surgery. *J Cataract Refract Surg* 2006;32:1696-701.



Fig.1. (a) Gum box near the anesthesia machine. (b) PF tablets in the gum box. (c) New special PF tablet box.