ศูนย์พิษวิทยารามาธิบดี
คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล
อาคารสุโขเพลส ถนนสุโขทัย กรุงเทพมหานคร 10300 สายด่วน 1367 โทรสาร 0-2201-1084

RAMATHIBODIPOISONCENTER
Faculty of Medicine Ramathibodi Hospital, Mahidol University
Sukho Place Building, Sukhothai Rd., Bangkok 10300 Hotline 1367

Ethephon exposure

Class of Recommendation (COR)	
	Benefit > Risk
	Benefit ≥ Risk
	Benefit ≤ Risk

- Skin exposure: Consider skin decontamination
- Oral exposure: GI Decontamination not recommended

Recommendation	COR
Skin decontamination	
GI decontamination	

Consider the high-risk patient
- Suicidal intent
- Older age
- Neurological deficit

Yes

Recommendation	COR
Supportive and symptomatic treatment	
Admission for observation	
Serial liver enzymes, Cr for 2 days*	
EGD if corrosive effects are present, based on **EXPERT OPINION**	

No

Recommendation	COR
Observation at least 6 h	

If clinically stable and no symptoms, the patient can be discharged.

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Mechanism of toxicities

Ethephon (2-chloroethylphosphonic acid) is a plant growth regulator.
It is as a cholinesterase inhibitor. It interferes with enzymes responsible for neurotransmitter breakdown, particularly acetylcholinesterase (AChE) in red blood cells and butyrylcholinesterase (BuChE) in plasma. This leads to a buildup of the neurotransmitter acetylcholine.

Clinical manifestations

Toxic effects of ethephon reported in human are:

- Gastrointestinal Effects (common): Stomach cramps, diarrhea, nausea, and vomiting.
- Neurological Effects: Dizziness, weakness, and central nervous system depression.
- Tachycardia or bradycardia (uncommon)
- May presented with cholinergic toxidrome (salivation, lacrimation, diarrhea, urgency of bowel movement, stomach cramps, increased urgency, and frequency of urination)
- Corrosive Effects: Ethephon is a corrosive substance and can cause severe irritation to the skin and eyes.
- Organ Damage*: With significant exposure, there is a risk of liver [1,2] and kidney [1] damage (hepatotoxicity and nephrotoxicity).

References

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