

Drugs Acting on Emetics

**Muralinath E.^{1*}, Pooja Devi², Prasanta Chbukdhara³, Sanjib Borah⁴, Kalyan C.⁵,
Archana Jain⁶, Guruprasad M.⁷**

¹Associate Professor, College of veterinary science, Proddatur, Andhra Pradesh, India

²Assistant Professor, Veterinary College, Mandi district, Himachal Pradesh, India

³Assistant Professor, Lakhimpur, College of veterinary science, Assam, India

⁴Associate Professor Lakhimpur, College of veterinary science, Assam, India

⁵Assistant Professor, College of veterinary science, Andhra Pradesh, India

⁶Professor and Head, Dept. of Vety Physiology and Biochemistry, Veterinary College,
Jabalpur, Madhya Pradesh, India

⁷AGM, Vaishnavi Microbial Pharma Pvt Ltd, Hyderabad, India

***Corresponding Author**

E-Mail Id: muralinathennamuri@gmail.com

ABSTRACT

Anything that causes nausea and vomiting is considered emetic. Emetic usage is restricted to the management of ingested toxins that have caused poisoning. The most widely used medication for this purpose was ipecac syrup, made from the dried roots of the Brazilian and Central American native plant *Carapichea ipecacuanha*, though its use is now discouraged.

Key words: Emetics, gastrointestinal tract, drugs

INTRODUCTION

Emetics play a crucial role in the field of medicine, particularly in addressing issues related to poisoning or overdose. Drugs that act as emetics are designed to induce vomiting, facilitating the removal of toxic substances from the body. This article will delve into the various drugs that serve this purpose, their mechanisms of action, and their clinical applications.[1]

Emetics are substances or drugs that stimulate the vomiting reflex, leading to the expulsion of the stomach's contents. This physiological response is the body's defense mechanism against the ingestion of harmful substances. In cases of poisoning or overdose, emetics become essential tools for medical intervention.[2,3]

MECHANISMS OF ACTION

Emetic drugs act through different mechanisms to induce vomiting. One

common mechanism involves stimulating the chemoreceptor trigger zone (CTZ) in the brain, which is sensitive to various toxins and emetic stimuli. Another mechanism targets the peripheral nervous system, specifically the vagal afferents in the gastrointestinal tract. These actions collectively lead to the activation of the vomiting reflex.[4,5]

IPECAC SYRUP

Historically, ipecac syrup was a commonly used emetic. It contains alkaloids, primarily emetine, which stimulate the CTZ and induce vomiting. However, the use of ipecac syrup has declined in recent years due to concerns about its effectiveness, potential side effects, and the availability of safer alternatives.[6]

APOMORPHINE

Apomorphine, a dopamine receptor agonist, is another emetic agent. It stimulates dopamine receptors in the CTZ,

triggering the vomiting reflex. Apomorphine is often used in emergency situations to induce vomiting in cases of accidental poisoning.[7]

ONDANSETRON

While most emetics aim to induce vomiting, some drugs, like ondansetron, function as antiemetics by blocking serotonin receptors in the CTZ. Although not typically used to induce vomiting, ondansetron can be employed in cases where vomiting needs to be prevented, such as during chemotherapy or after surgery.[8]

ACTIVATED CHARCOAL

While not a drug per se, activated charcoal is worth mentioning in the context of emetics. It is often administered in combination with emetics to adsorb toxins in the gastrointestinal tract, preventing their absorption. Activated charcoal's porous structure binds to toxins, facilitating their elimination through the digestive system.[9]

CLINICAL APPLICATIONS

Emetics find application in various clinical scenarios, particularly in cases of accidental poisoning or drug overdose. Prompt administration of emetics can be crucial in preventing the absorption of toxic substances and mitigating potential harm. However, their use must be carefully considered, and healthcare professionals should weigh the risks and benefits based on the specific circumstances.[10]

LIMITATIONS

CONSIDERATIONS

While emetics can be effective in certain situations, their use is not without limitations and potential risks. Inducing vomiting may not be suitable for certain toxic substances, such as corrosive chemicals or petroleum products, as it can lead to additional harm. Additionally, emetics may be contraindicated in cases

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where the patient is unconscious, at risk of aspiration, or when specific medical conditions are present.[11,12]

EVOLVING PRACTICES

The landscape of emetic use has evolved over time, with a shift towards more targeted and evidence-based interventions. The emphasis is now on individualized patient care, considering factors such as the nature of the ingested substance, the patient's overall health, and the timing of intervention.[13,14]

CONCLUSION

In conclusion, drugs acting on emetics play a vital role in emergency medical situations, offering a means to expel toxic substances from the body. Understanding the mechanisms of action and considering the specific circumstances of each case are crucial in the judicious use of emetics. As medical practices continue to advance, the role of emetics in poisoning management will likely be refined, ensuring the most effective and safe interventions for patients facing toxic exposures.

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