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Pharmacological Management of Hyperemesis Gravidarum: A review from a Pharmaceutical Perspective

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Abstract

Hyperemesis gravidarum (HG) is a severe form of nausea and vomiting during pregnancy. Around 27- 30% women in pregnancy experience nausea and 28-52% women experience vomiting and 0.3-3% women suffer from Hyperemesis Gravidarum. Mostly it is suffered by Western women than in African and Asian women. Hyperemesis gravidarum causes dehydration, electrolyte deficiencies and nutritional deficiencies. Left untreated causes maternal morbidity. Main aim is to provide hydration and nutrition to the patient. It causes preterm birth low weight baby. The cause of Hyperemesis Gravidarum is unknown. However, recent studies suggest human chorionic gonadotrophin (hcG) and it also suggest two gene responsible for it that is GDF15 and IGFBP7, presence of Helicobacter Pyroli. It typically starts with 10 weeks and in some cases last till pregnancy. Most of the medicine are not much effective and there is not much trials in pregnant women. There are some alternative medicines which has shown positive effects in treating Hyperemesis Gravidarum but has not explored much yet. Some of alternative treatment includes Acupuncture, Acupressure and ginger.

Introduction

Hyperemesis Gravidarum is a severe form of nausea and vomiting which affects about 0.3- 3% of total pregnant women. It causes severe dehydration, electrolyte deficiency and nutritional deficiency. The overall goal in treating is to maintain patient hydration and balance electrolyte and nutritional deficiencies.

Understanding the Cause

While the exact cause of HG is still debated, high levels of human chorionic gonadotropin (hCG) and estrogen are frequently implicated. Some studies suggest a link between Helicobacter pylori infection and HG, while others point to presence of genes such as GDF15 and IGFB7.

Clinical Features and Diagnosis

HG is typically diagnosed when a pregnant woman experiences:

- Persistent vomiting
- Weight loss exceeding 5% of pre-pregnancy weight
- Dehydration and ketonuriaThese symptoms goes beyond morning sickness and affects daily life.

Pharmacological Management

First line treatment includes Pyridoxine and Doxylamine it is safe and effective and is approved by FDA. Second line treatment

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includes Ondansetron,Metoclopromide and Promethazine but Ondansetrn shows conflicting data on fetal safety. Some report says it causes cleft palate in First Trimester.

Pharmaceutical Science Perspective

Pregnancy alters drug metabolism due to changes in gastric pH, increased renal clearance, and hepatic enzyme activity. This makes dose optimization and drug formulation a challenge.

Additionally, many drugs used in pregnancy lack robust safety data due to ethical restrictions in conducting clinical trials on pregnant women. This underlines the need for more post-marketing surveillance and pharmacovigilance in maternal medicine.

Recent Research

Studies on ginger extracts, acupressure, Acupuncture and CBD-based therapies are emerging but not yet widely adopted due to limited evidence.

- There is a need for safer antiemetics designed specifically for pregnant women.
- Few drugs are formally studied in pregnancy, which limits clear guidance.

Conclusion

Hyperemesis gravidarum remains a distressing condition with limited but evolving treatment options. Pharmacists and pharmaceutical professionals have a key role in ensuring that therapies are safe, effective, and tailored to pregnant women. More research, better formulations, and active drug safety monitoring can go a long way in improving outcomes for both mothers and their unborn children.

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