



Ginger Relieve Chemotherapy Induced Nausea and Vomiting (CINV) In Children

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Introduction

- One of the major adverse effect of chemotherapy is **chemotherapy induced nausea and vomiting (CINV)** which can obviously reduce patient's quality of life.
- There are some chemical drugs for this problem.
- But sometimes in spite of these agents use, patients have severe vomiting.





Introduction

- Ginger (*Zingiber officinale*) is an herb which has been taking for gastrointestinal complaints for centuries and it's a traditional antiemetic agent.
- Also, the studies have shown that ginger has a therapeutic effect on motion sickness, migraine, pregnancy induced nausea and postoperative nausea and vomiting.





Methods:

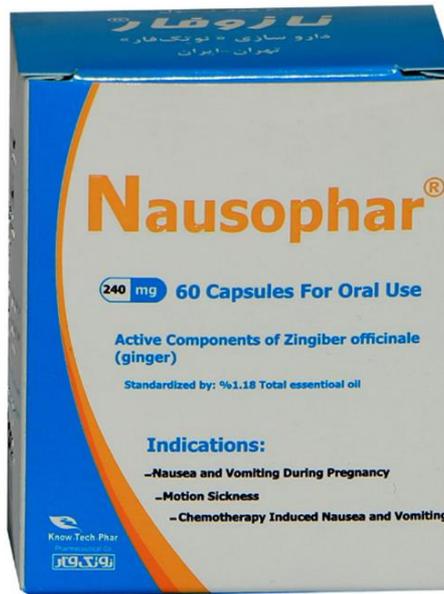
- Double-blinded placebo-controlled trial
- Conducted at oncology ward in **Ali-asghar children hospital**
- We included 49 chemotherapy cycles, 25 cycles for **treatment group** and 24 cycles for **placebo groups**.



Methods:

- Intervention group took medication in the form of “Nausophar capsule” (240 mg) which made from the active ingredients of ginger.
- Control group took placebo.
- The ginger and placebo capsules were manufactured by Know.Tech.Pharm Corporation in Tehran.





Methods:

- All patients took the study medication four times per day (every 6h), starting on the first day of chemotherapy until 24h after completion of chemotherapy.
- Frequency and severity of nausea and vomiting were measured by **Edmonton's Symptom Assessment Scale** (ESAS) from the first day of chemotherapy until 24h after completion of chemotherapy. This numerical assessment scale has 0 to 10 score, due to patient's opinion about the

severity.



Inclusion Criteria:

Participants were undergoing chemotherapy and:

- At least 6 years-old
- With an experience of CINV in previous cycles.

Exclusion Criteria:

- Evidence of gallstones
- Underlying coagulation disorders
- Use any thrombolytic agents or heparin or any coagulation disorders



Results:

- 23 patients (46.9%) had experienced severe nausea and 26 patients (53.1%) had experienced very severe nausea in the previous chemotherapy cycles.
- 26 participants (53.1%) had been receiving two or less doses of Granisetron daily and 23 participants (46.9%) receiving more than two doses of this drug daily in the cycles prior to our trial.
- During 1st day until 5th day the score of **nausea severity was lower in the ginger group** ($p < 0.05$)



Characteristics	n total=49
Gender; n (%)	
Male	14 (28.6%)
Female	35 (71.4%)
Age in years; median (IQR)	
Ginger group	13(8-14)
Placebo group	13(8-14)
Previous antiemetic	
Granisetron; n (%)	
>2 daily	23 (46.9%)
≤2 daily	26 (53.1%)
Cocktail; n (%)	
>2 daily	6 (12.3%)
≤2 daily	40 (81.6%)
0	3 (6.1%)
Previous CINV; n (%)	
Severe	23 (46.9%)
Very severe	26 (53.1%)



Comparison of Nausea frequency between groups

	Placebo	Nausophar	P value
Day 1	3.91 (1.74)	0.32 (0.69)	< 0.001
Day 2	2.83 (0.91)	1.04 (2.03)	< 0.001
Day 3	3.66 (0.51)	0.85 (1.46)	0.014
Day 4	3.66 (0.51)	0.4 (0.54)	0.004

The frequency of nausea in the intervention group was lower than in the placebo group meaningfully. ($p < 0.05$)



Comparison of vomiting frequency between groups

	Placebo	Nausophar	P value
Day 1	1.66 (1.04)	0.2 (0.64)	< 0.001
Day 2	0.91 (0.77)	0.32 (0.8)	0.002
Day 3	2.33 (1.07)	0.42 (0.78)	0.008
Day 4	1.66 (0.51)	0.2 (0.44)	0.009

The frequency of vomiting in the intervention group was lower than in the placebo group meaningfully. ($p < 0.05$)



conclusion

- In conclusion, according to our study ginger may reduce severity and prevalence of CINV in children.
- So we recommend that ginger can be used as an efficient antiemetic for pediatric patients. We suggest that it prescribes beside other antiemetics like Granisetron.



Limitation

- Being a **single institute** survey which based on a **small population**.
- Our result would have been more reliable if we had involved more pediatric patients.
- We recommend that this study to be done on a larger sample size



Thank you!

