

Minimal Clinically Important Differences in Overall and Individual Gastroparesis Symptoms After G-POEM: Impact of Clinical Factors and Prior Treatments

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BACKGROUND

Gastric peroral endoscopic myotomy (G-POEM) reduces symptoms in gastroparesis to varying degrees.

Studies using Gastroparesis Cardinal Symptom Index (GCSI) surveys set cutoffs for minimal clinically important differences (MCID) that reflect significant longitudinal improvement over time*.

Few studies have assessed MCIDs of individual gastroparesis symptoms after G-POEM or impact of clinical factors on MCID responses.

We compared MCIDs after G-POEM for overall GCSI, individual symptoms relating to gastric emptying, pain and opioid use, conditions associated with gastroparesis, and prior therapies.

METHODS

22 refractory gastroparesis patients completed GCSI surveys (0=no symptoms, 5=very severe) before and 85 ± days after G-POEM procedures performed from 2017 to 2021.

MCIDs ≥1 after G-POEM were deemed significant for:

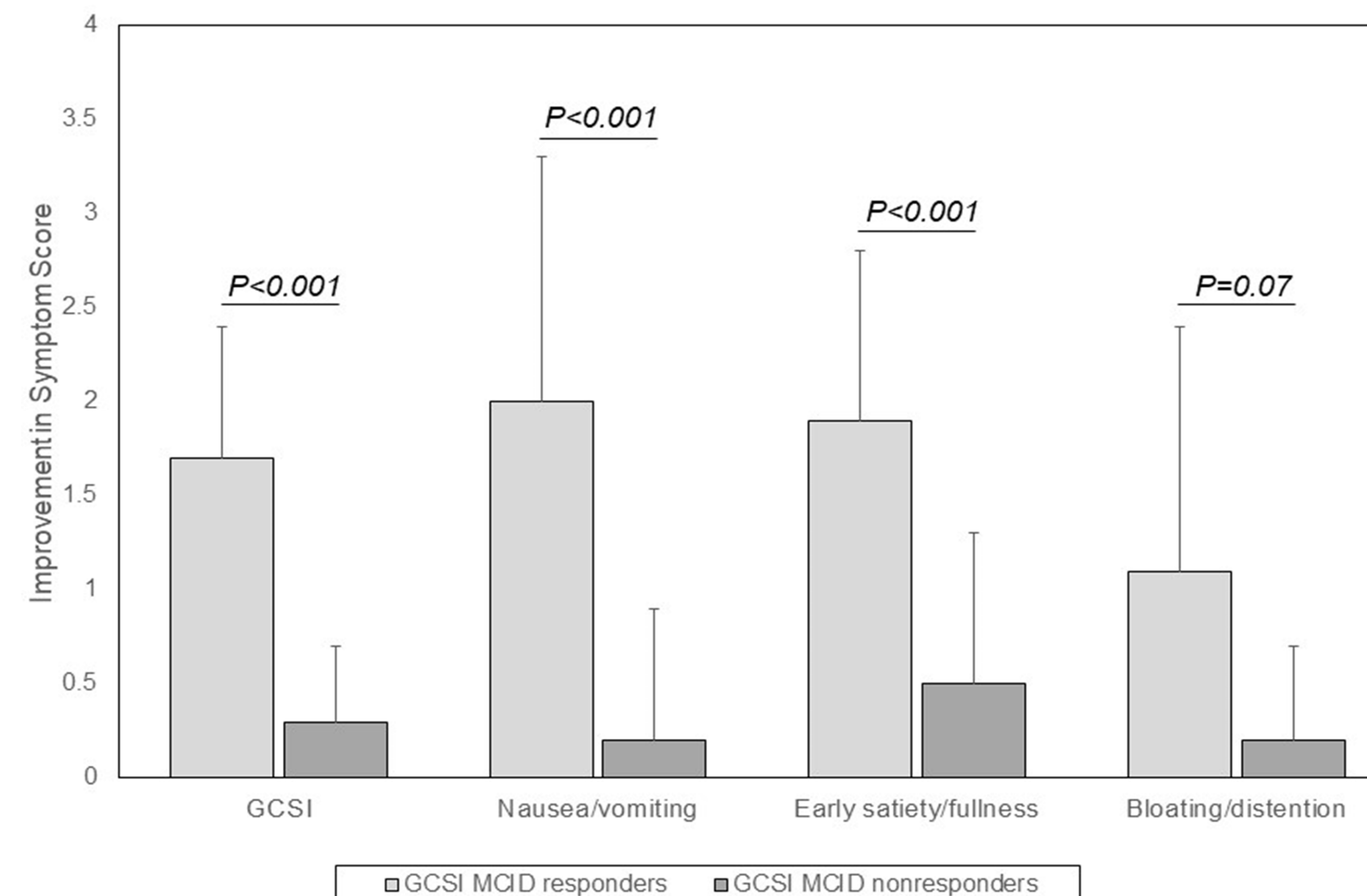
- overall GCSI
- nausea/vomiting (NV)
- early satiety/fullness (ES)
- bloating/distention (BL) scores.

RESULTS

11/22 patients (50%) met MCID cutoffs for significant GCSI reduction after G-POEM.

Individual symptom decreases meeting MCID cutoffs:

- 12 (54%) Nausea/Vomiting and Early Satiety
- 9 (41%) Bloating/Distension



NV and ES reductions were greater in those meeting GCSI MCID cutoffs
BL reductions similar trend but not significant (P=0.07)

Gastric emptying normalized in 8/20 patients (40%)

No difference observed between MCID responder versus nonresponder groups

- GCSI (44% vs. 36%, P=1.0)
- Nausea/Vomiting (30% vs. 50%, P=0.65)
- Early Satiety (40% vs. 40%, P=1.0)
- Bloating/Distension (56% vs. 27%, P=0.46)

Pain a major symptom 2/10 responders(20%) vs 4/11 nonresponders(36%)(P=0.64)

Opioids were used by 3/11 responders and 3/11 nonresponders (27%, P=1.0)

FACTORS ASSOCIATED WITH IMPROVED VS POORER MCID RESPONSE TO G-POEM

Symptom Score Measuring MCID Response	Associated with Improved Response		Associated with Poorer Response	
	Factor	P Value	Factor	P Value
Overall GCSI score	Higher postprandial fullness	0.04	Higher number of botulinum toxin injections	0.08
	Prior metoclopramide use	0.08		
Nausea/vomiting GCSI subscore	Higher basal NV GCSI subscore	0.03	Diabetic gastroparesis etiology	0.09
	Higher basal individual nausea score	0.02		
	Higher basal NV individual vomiting score	0.03	Fibromyalgia	0.09
Early satiety/fullness GCSI subscore	Higher basal NV GCSI subscore	0.03	Fibromyalgia	0.06
	Higher basal ES GCSI subscore	0.01		
	Higher basal individual postprandial fullness score	0.001	Prior opioid use	0.06
	Prior metoclopramide use	0.01		
Bloating/distention GCSI subscore	IBS	0.04		

CONCLUSIONS

Important overall symptom responses to G-POEM using MCIDs were reported by half of gastroparesis patients.

Individual symptoms of nausea/vomiting and early satiety showed significant improvement after G-POEM.

Increased basal gastroparesis symptoms, metoclopramide use, and IBS were associated with greater response after G-POEM

Diabetic gastroparesis, fibromyalgia, prior opioid use, and multiple botulinum toxin injections may be associated with poor response