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gastroparesis:

Gastroparésie : évaluation de l'acupuncture

1. Systematic Reviews and Meta-Analysis

☆☆☆	Evidence for effectiveness and a specific effect of acupuncture
☆☆	Evidence for effectiveness of acupuncture
☆	Limited evidence for effectiveness of acupuncture
Ø	No evidence or insufficient evidence

1.1. Generic Acupuncture

1.1.1. Li 2022

Li X, Yan Z, Xia J, Sun Y, Gong P, Fan Y, Wang X, Cui X. Traditional Chinese acupoint massage, acupuncture, and moxibustion for people with diabetic gastroparesis: A systematic review and meta-analysis. Medicine (Baltimore). 2022 Dec 2;101(48):e32058. https://doi.org/10.1097/MD.0000000000032058.

Background	Traditional Chinese acupoint therapy has been used for thousands of years on gastrointestinal diseases. In this work, we evaluated the efficiency and safety of traditional Chinese acupoint therapies versus standard therapies, nursing or recovery treatments in the treatment of diabetic gastroparesis.e expect that traditional Chinese medicine acupoint therapy can be noticed by more people, so as to provide more high-quality clinical evidence.
Methods	Randomized controlled trials were included in this meta-analysis. The treatment groups received traditional Chinese acupoint therapy, while the control groups received standard therapies, nursing, or recovery treatments. The relative risk and weighted mean difference with 95% confidence interval for the total effective rate, gastrin level, gastric-emptying time, fasting blood glucose level, 2-hour blood glucose level, and glycosylated hemoglobin level were evaluated using RevMan 5.3 software. Bias assessment was performed using the Cochrane risk-of-bias tool.
Results	A total of **59 articles** were included in the analysis. In comparison with the control groups, the acupoint therapy groups showed higher total effective rates ($P < .00001$), enhanced gastric-emptying rates ($P < .00001$), and reduced glycosylated hemoglobin levels.
Conclusion	In comparison with Western medicine or conventional care, traditional Chinese acupoint therapies showed a significant advantage in the treatment of diabetic gastroparesis. However, considering the low quality and high risk of the included studies, more high-quality randomized controlled trials are needed to confirm the results.

1.1.2. Kim 2018

Kim KH, Lee MS, Choi TY, Kim TH. Acupuncture for symptomatic gastroparesis. Cochrane Database

Syst Rev. 2018;CD009676. [189959].

Background	Gastroparesis, a state of delayed gastric emptying in the absence of mechanical obstruction of the stomach, has a substantial impact on people's daily function and quality of life when symptomatic. Current treatment options are based on limited evidence of benefits. Acupuncture is widely used to manage gastrointestinal disorders, although its role in people with symptomatic gastroparesis is unclear. We therefore undertook a systematic review of the evidence.
Objectives	To assess the benefits and harms of acupuncture, in comparison with no treatment, sham acupuncture, conventional medicine, standard care, or other non-pharmacological active interventions for symptom management in people with gastroparesis.
Methods	SEARCH METHODS: On 26 March 2018, we searched the Cochrane Neuromuscular Specialised Register, CENTRAL, MEDLINE, Embase, CINAHL Plus, PsycINFO, AMED, Korean medical databases (including Korean Studies Information, DBPIA, Korea Institute of Science and Technology Information, Research Information Centre for Health Database, KoreaMed, and the National Assembly Library), and Chinese databases (including the China Academic Journal). We also searched two clinical trials registries for ongoing trials. We imposed no language limitations. SELECTION CRITERIA: We selected all randomised controlled trials comparing the penetrating type of acupuncture with no treatment, sham acupuncture, conventional medicine, standard care, and other non-pharmacological active interventions for people with symptomatic gastroparesis of any aetiology (i.e. surgical, diabetic, or idiopathic). Trials reporting outcomes at least four weeks from baseline (short-term outcomes) were eligible. We defined long-term outcomes as those measured after 12 weeks from baseline. The primary outcome was improvement of gastroparesis symptoms in the short term. Secondary outcomes were: improvement of symptoms measured after three months, change in the rate of gastric emptying, quality of life, use of medication, and adverse events in the short and long term. DATA COLLECTION AND ANALYSIS: Two review authors independently selected eligible trials based on predefined selection criteria. Two review authors independently extracted data and evaluated the risk of bias. The review authors contacted investigators to obtain missing information wherever possible.

Main Results	We included **32 studies** that involved a total of **2601 participants**. Acupuncture was either manually stimulated (24 studies) or electrically stimulated (8 studies). The aetiology of gastroparesis was diabetes (31 studies) or surgery (1 study). All studies provided data on the proportion of people with symptoms 'improved', although the definition or categorisation of improvement varied among the studies. Most measured only short-term outcomes (28 studies), and only one study employed validated instruments to assess subjective changes in symptoms or reported data on quality of life or the use of medication. Reporting of harm was incomplete; minor adverse events were reported in only seven trials. Most studies had unclear risk of bias in terms of allocation concealment (29/32), outcome assessor blinding (31/32) and selective reporting (31/32), as well as high risk of bias in terms of participant/personnel blinding (31/32). Acupuncture was compared with sham acupuncture (needling on non-acupuncture points), three different types of gastrokinetic drugs (domperidone, mosapride, cisapride), and a histamine H_2 receptor antagonist (cimetidine).There was low-certainty evidence that symptom scores of participants receiving acupuncture did not differ from those of participants receiving sham acupuncture at three months when measured by a validated scale.There was very low-certainty evidence that a greater proportion of participants receiving acupuncture had 'improved' symptoms in the short term compared to participants who received gastrokinetic medication (4 to 12 weeks) (12 studies; 963 participants; risk ratio (RR) 1.25; 95% confidence interval (CI) 1.17 to 1.33, I^2 = 8%). Short-term improvement in overall symptom scores favouring acupuncture was also reported in five studies with considerable heterogeneity.Acupuncture in combination with other treatments, including gastrokinetics, non-gastrokinetics and routine care, was compared with the same treatment alone. There was very low-certainty evidence in favour of acupuncture for the proportion of participants with 'improved' symptoms in the short term (4 to 12 weeks) (17 studies; 1404 participants; RR 1.22; 95% CI 1.16 to 1.28; I^2 = 0%). Short-term improvement in overall symptom scores, favouring acupuncture, were also reported (two studies, 132 participants; MD -1.96, 95% CI -2.42 to -1.50; I^2 = 0%).Seven studies described adverse events, including minor bleeding and hematoma, dizziness, xerostomia, loose stool, diarrhoea, abdominal pain, skin rash and fatigue. The rest of the trials did not report whether adverse events occurred. Subgroup analyses revealed that short-term benefits in terms of the proportion of people with 'improved' symptoms did not differ according to the type of acupuncture stimulation (i.e. manual or electrical). The sensitivity analysis revealed that use of a valid method of random sequence generation, and the use of objective measurements of gastric emptying, did not alter the overall effect estimate in terms of the proportion of people with 'improved' symptoms. The asymmetric funnel plot suggests small study effects and publication bias towards positive reporting.
Authors' conclusions	**There is very low-certainty evidence** for a short-term benefit with acupuncture alone or acupuncture combined with gastrokinetic drugs compared with the drug alone, in terms of the proportion of people who experienced improvement in diabetic gastroparesis. There is evidence of publication bias and a positive bias of small study effects. The reported benefits should be interpreted with great caution because of the unclear overall risk of bias, unvalidated measurements of change in subjective symptoms, publication bias and small study reporting bias, and lack of data on long-term outcomes; the effects reported in this review may therefore differ significantly from the true effect. One sham-controlled trial provided low-certainty evidence of no difference between real and sham acupuncture in terms of short-term symptom improvement in diabetic gastroparesis, when measured by a validated scale. No studies reported changes in quality of life or the use of medication. Due to the absence of data, no conclusion can be made regarding effects of acupuncture on gastroparesis of other aetiologies. Reports of harm have remained largely incomplete, precluding assessments of the safety of acupuncture in this population. Future research should focus on reducing the sources of bias in the trial design as well as transparent reporting. Harms of interventions should be explicitly reported.

1.2. Special Clinical Forms

1.2.1. Postoperative gastroparesis

see corresponding item

1.2.2. Diabetic gastroparesis

1.2.2.1. Li 2023 (overview of systematic reviews)

Li T, Yu M, Han L, Feng B, Sun F. An overview of systematic reviews of acupuncture for diabetic gastroparesis. Front Med (Lausanne). 2023 Jul 31;10:1196357. https://doi.org/10.3389/fmed.2023.1196357

Background	To date, several systematic reviews and/or meta-analyses (SRs/MAs) on the topic of acupuncture as a treatment for diabetic gastroparesis (DGP) have been published. However, whether acupuncture is an effective and safe treatment for DGP remains controversial. In this study, we aimed to determine whether the methodology and results of previously published SRs/MAs of acupuncture as a treatment for DGP were of sufficient quality to be considered reliable.
Methods	We extensively searched seven databases, including PubMed, EMBASE, Cochrane Library, Web of Science, China National Knowledge, Wan Fang, and Chongqing VIP, for SRs/MAs published before or on September 16, 2022. The SRs/MAs that met the inclusion criteria were evaluated for the quality of the methodology and results using the Assessing the Methodological Quality of Systematic Reviews Two (AMSTAR-2) and Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) tools. A re-meta-analysis of primary outcome indicators was also performed.
Results	**Ten SRs/Mas** that met the inclusion criteria were obtained. Using the AMSTAR-2, which is a methodological quality assessment tool, two MAs were rated as low quality, and eight SRs/MAs were rated as extremely low quality. Assessment with the GRADE tool revealed that, among 20 results, 4 were of moderate quality, 10 were of low quality, and 6 were of very low quality. Re-meta-analysis of primary outcome indicators revealed that, in terms of total efficiency, all types of acupuncture interventions, such as acupuncture, electroacupuncture, and acupoint injection, performed better than the controls, such as gastroprokinetic agents and sham acupuncture. Moreover, in the treatment of DGP, acupuncture exhibited fewer side effects compared to the controls.
Conclusion	Acupuncture appears to improve the symptoms of patients with DGP, and the side effects of acupuncture as a treatment for DGP are inferior to those of the controls. However, owing to the low quality of the methodology and results of the SRs/MAs, these findings cannot be considered reliable and need to be validated by additional studies with rigorous standards of experimental design and protocols and larger sample sizes.

1.2.2.2. Chen 2018

Chen Ya-Jun, Tan Qun-Xiao, Zhang Yang-Wu, Chen Hong-Xia. [Acupuncture for management of type 2 diabetic gastroparesis: a Meta-analysis]. Guangxi Medical Journal. 2018;9:1073-1076. [201782].

Objective	To evaluate the efficacy of acupuncture for the management of type 2 diabetic gastroparesis.

Methods	A computer-based retrieval was performed in the databases, such as Wanfang Data, VIP Database, CNKI, Cochrane Library, HighWire, PubMed for the randomized controlled trials about acupuncture for the management of type 2 diabetic gastroparesis. And RevMan5.3 software was applied to a Meta-analysis after literature screening.
Results	A total of **10 trials** were included, involving **774 patients**. The result of Meta-analysis showed that, for patients with type 2 diabetic gastroparesis, the effective rate of acupuncture therapy was superior to that of monotherapy of western medicine(P<0.05).
Conclusion	Acupuncture alone or combined with Chinese/western medicine can improve the effective rate in the treatment of type 2 diabetic gastroparesis.

1.2.2.3. Zhu 2018

Zhu Yu-Ru, Kang Jian-Ying, Wang Xu. [Survey clinical evidence of acupuncture therapy for Diabetic gastroparesis]. Nei Mongol Journal of Traditional Chinese Medicine. 2018;(3):. [115728].

Objective	To evaluate the clinical studies of acupuncture for treatment of Diabetic gastroparesis and collect the high quality evidence for clinical decision-making reference.
Methods	The documents of clinical study were comprehensively retrieved. According to criterion of evidence based medicine, the evidence from high to low level were selected to answer corresponding clinical questions and Rev Man 5. 0 was used to analyze the final indicator.
Results	A level of evidence is included in the system assessment/meta-analysis. Level B evidence are 20 items; C level evidence is 0; Class D evidence are 9; Class E evidence are 4. Among them, one of the low-quality b-level evidence acupuncture is used to treat diabetic gastroparesis. A total of 3 a-level evidences, 1 high quality b-level evidence, 15 low-quality b-grade evidence were compared with the efficacy of acupuncture and western medicine. A total of 1 low-quality grade B evidence was included to compare the efficacy of electroacupuncture with western medicine. There is no clinical evidence of acupuncture compared with other treatments. A total of 1 low-quality b-grade evidence was used to compare the efficacy of different moxibustion methods.
Conclusion	Acupuncture and moxibustion treatment of diabetic gastroparesis is effective, also to have curative effect advantage in contrast with the western medicine, and acupuncture and oral western medicine can reach the work efficiency, can mostly improve satiety, loss of appetite, abdominal tenderness, belching, food intake, and quality, and the clinical symptoms, but still needs more large sample, multi-center clinical trial or system evaluation/Mate analysis certificate.

1.2.2.4. He 2015

He Hong ,Li Ke, Zhang Lin ,Hu Mao-qjng. [Systematic Review of Acupuncture in the Treatment of Diabetic Gastroparesis]. Journal of Clinical Acupuncture and Moxibustion. 2015. 31(8):46-50. [187618].

Objective	To evaluate the effectiveness and safety of acupuncture therapy for treating diabetic gastroparesis(DGP).
Methods	Random-controlled trials (RCTs) involving acupuncture therapy for DGP in recent decade were seeked by computers, and the methodological quality of the eligible trials was evaluated in this systematic review, and Meta-analysis was performed.

Results	**The inclusive 10 articles were all randomized controlled trials**, containing 755 patients of DGP, and reported in Chinese , with low methodologica1 quality. Data of included trials were meta -analyzed or descriptively analyzed. The whole data ana1ysis indicated that acupuncture therapy was more effective and stable and safer than that in the control group.
Conclusion	**The evidence shows that the acupuncture therapy can improve the effectiveness for the treatments of DGP.** Besides, standardizing evaluation'clinica1 efficacy will be helpful to enhance the acupuncture therapy for treating DGP.

1.2.2.5. Yang 2013 ☆☆

Yang M, Li X, Liu S, Li Z, Xue M, Gao D, Li X, Yang S. Meta-analysis of acupuncture for relieving non-organic dyspeptic symptoms suggestive of diabetic gastroparesis. BMC Complement Altern Med. 2013 Nov 9;13:311. doi: 10.1186/1472-6882-13-311. [170276]

Purpose	We conducted this systematic review of randomized controlled trials (RCTs) to evaluate the efficacy of acupuncture for diabetic gastroparesis (DGP).
Methods	We searched PubMed, EMbase, Cochrane Central Register of Controlled Trials (CENTRAL) and four Chinese databases including China National Knowledge Infrastructure (CNKI), VIP Database for Chinese Technical Periodicals, Chinese Biomedical Literature Database (CBM) and WanFang Data up to January 2013 without language restriction. Eligible RCTs were designed to examine the efficacy of acupuncture in improving dyspeptic symptoms and gastric emptying in DGP. Risk of bias, study design and outcomes were extracted from trials. Relative risk (RR) was calculated for dichotomous data. Mean difference (MD) and standardized mean difference (SMD) were selected for continuous data to pool the overall effect.
Results	We searched 744 studies, among which **14 RCTs** were considered eligible. Overall, acupuncture treatment had a high response rate than controls (RR, 1.20 [95% confidence interval (CI), 1.12 to 1.29], P < 0.00001), and significantly improved dyspeptic symptoms compared with the control group. There was no difference in solid gastric emptying between acupuncture and control. Acupuncture improved single dyspeptic symptom such as nausea and vomiting, loss of appetite and stomach fullness. Most studies were in unclear and high risk of bias and with small sample size (median = 62). The majority of the RCTs reported positive effect of acupuncture in improving dyspeptic symptoms.
Conclusion	The results suggested that **acupuncture might be effective to improve dyspeptic symptoms in DGP**, while a definite conclusion about whether acupuncture was effective for DGP could not be drawn due to the low quality of trials and possibility of publication bias.

2. Clinical Practice Guidelines

2.1. American College of Gastroenterology (ACG, USA) 2022 ⊕

Camilleri M, Kuo B, Nguyen L, Vaughn VM, Petrey J, Greer K, Yadlapati R, Abell TL. ACG Clinical Guideline: Gastroparesis. Am J Gastroenterol. 2022 Aug 1;117(8):1197-1220. https://doi.org/10.14309/ajg.0000000000001874

16. Acupuncture alone or acupuncture combined with prokinetic drugs may be beneficial for symptom control in patients with DG. Acupuncture cannot be recommended as beneficial for other etiologies of GP (conditional recommendation, very low quality of evidence).

2.2. American College of Gastroenterology (ACG, USA) 2013 ⊕

Camilleri M, Parkman HP, Shafi MA, Abell TI, Gerson L; American College of Gastroenterology. Clinical guideline: management of gastroparesis. Am J Gastroenterol. 2013;108(1):18-37. [166993].

Acupuncture can be considered as an alternative therapy. This has been associated with improved rates of gastric emptying and reduction of symptoms. (Conditional recommendation, low level of evidence)