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Research Article
Effectiveness of Palonosetron and Auricular Acupoint Compression Ceans in Reducing Nausea and Vomiting in Cancer Patients

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Abstract

Background and Objective: Currently, the primary modalities used for the management of malignant tumors are surgery, chemotherapy, radiation, intervention, molecularly targeted medicines and traditional Chinese medicine therapy. In this study, the clinical efficacy of auricular point compression on vomiting and nausea induced by platinum-containing chemotherapy was observed to provide evidence for clinical treatment. **Materials and Methods:** This study randomly allocated 50 cisplatin, nedaplatin, carboplatin or oxaliplatin patients to experimental and untreated groups. The experimental group received an ear-point compression bean and Palonosetron hydrochloride injection, whereas the control group received merely an injection. Daily exams occur throughout the seven days of treatment. The KPS scores, nausea, vomiting and appetite changes from medication. **Results:** Auricular point compression for chemotherapy-induced nausea and vomiting: Safety and efficacy. From day 7, experimental and untreated groups had comparable nausea control on day 1 ($p>0.05$). Both groups had similar acute vomiting and anti-nausea effects. Day 1-7 increased appetite similarly in experimental and untreated groups. Day 2-5 bean auricular point compression helped with appetite loss after chemotherapy. The KPS life-quality scores were unchanged ($p>0.05$). Auricular acupoint compression did not enhance the patient's quality of life. This research found that antiemetics causes dizziness, headaches, stomach pain and constipation. Auricular point pressure significantly reduced antiemetic drug effects in the experimental group ($p<0.05$), indicating potential effectiveness. **Conclusion:** More chemotherapy patients with nausea and vomiting may benefit from the safe ear point pressure bean.

Key words: Ear point pressure bean, palonosetron, malignant tumors, Chinese medicine therapy

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Competing Interest: The authors have declared that no competing interest exists.

Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

At present, the main methods of treatment for malignant tumors such as surgery, chemotherapy, radiotherapy, intervention, molecularly targeted drugs and traditional Chinese medicine therapy[1]. As one of the means to treat malignant tumors, chemotherapy has developed rapidly and new drugs have emerged endlessly[2]. However, while killing cancer cells, chemotherapy also has many effects on patients themselves and a series of toxic and side effects often appear in the course of chemotherapy, such as digestive tract reaction, bone marrow suppression, hepatotoxicity, cardiotoxicity, skin pigmentation and so on[3]. These reactions do not only affect the patient's life quality and nutritional status but also cause the patient to refuse to complete the required course of treatment or change the treatment plan[4]. Therefore, how to reduce the toxic and side effects of chemotherapy, reduce the pain of patients and improve clinical symptoms is a problem we must consider in the clinical process[5].

Nausea and vomiting are common symptoms of digestive tract reaction after chemotherapy, with a clinical incidence of up to 80~90%, which brings great pain to patients. Especially in the application of various programs based on cisplatin, the incidence of nausea and vomiting is almost 100%[6]. Currently, the main drugs used in the clinical treatment of vomiting are 5-HT receptor blockers and DA receptor blockers. However, since most antiemetic drugs have no obvious effect on nausea and vomiting caused by chemotherapy with platinum-containing regimen and the dose is increased due to poor efficacy, it brings unnecessary side effects such as extrapyramidal signs, orthostatic hypotension sedation, hallucination and so on[7]. Palonosetron injection is a 5-HT3 receptor blocker with strong affinity which is commonly used clinically for antiemetic drugs, mostly in preventing vomiting and nausea caused by moderate or severe chemotherapy drugs[8]. However, studies in recent years have found that the complete remission rate of palonosetron injection in patients with vomiting is only 50 to 60%, especially the control rate of vomiting is poor[9].

The multitude of clinical and experimental studies have shown that traditional Chinese medicine can decrease the toxic and side effects of chemotherapy, prevent the occurrence of nausea and vomiting, promote the recovery of gastrointestinal function, adjust or improve the immune function of the body and clinical symptoms of patients, enhance or consolidate the effect of chemotherapy and enhance the patient's life quality[10]. Many scholars continue to explore this field and have achieved certain results, but most of them are short clinical reports and some studies are mostly scattered, not deep enough, clinical diagnosis, TCM syndrome differentiation and efficacy evaluation standards are not uniform[11,12]. In addition, auricular point therapy has a long history, with low price, small toxic side effects, curative effects and other advantages.

This study will be committed to giving full play to the benefits of traditional Chinese medicine and exploring the clinical effectiveness of auricular point compression bean combined with palonosetron injection in treatment of chemotherapy-induced vomiting and nausea, hoping to make a breakthrough in the treatment of chemotherapy toxicity and side effects by traditional Chinese medicine through this study and create a highly repeatable treatment method to better serve the clinic.

MATERIALS AND METHODS

Ethics statement: All procedures were carried out with the prior informed consent of the patients. The study complied with the Ethical Guidelines of the 1975 Declaration of Helsinki and was approved by the Institutional Review Board of Central Health Center of Zeya Town (Reg. No. 2020/234/ACU/4332).

General data: Between October, 2020 and October, 2022, a total of fifty patients with malignant tumors received chemotherapy treatment at the Central Health Center in Zeya Town. They were categorized into an experimental group and an untreated group, consisting of 26 patients in the experimental group and 24 patients in the untreated group by using the random number table method.

Inclusion criteria: (1) Malignant tumor confirmed by histopathology or cytopathology, (2) Age 20-80 years old, (3) KPS score>60, (4) Expected survival >3 months, (5) Normal blood routine and liver and kidney function, (6) Chemotherapy regimen containing cisplatin, paraplatin, nedaplatin and carboplatin and (7) Patient had good compliance and agreed to participate in this study.

Exclusion criteria: (1) Those who do not satisfy the above inclusion criteria, (2) Refractory vomiting due to increased intracranial pressure, digestive tract obstruction or other reasons, (3) Severe liver, kidney, heart and brain dysfunction, brain tumor, cerebrovascular disease, or serious complications due to other organ complications, (4) Suffering from an uncontrollable mental illness or mental disorder, (5) Patients with nausea or vomiting within 24 hrs before chemotherapy, (6) Pregnant and lactating women, (7) Patients with central nervous system metastasis and (8) Poor compliance.

Treatment methods

Control group: Palonosetron hydrochloride injection (Qilu Pharmaceutical Co. Ltd., specification: 0.25 mg: 5 mL) 0.25 mg intravenous injection was given 30 min before chemotherapy, the injection time was more than 30 sec.

Treatment group: One day before chemotherapy, unilateral ear point pressure bean, left and right ear alternately, once every other day. Antiemetic drugs were used in the control group (same dosage and usage as the control group). The observation period was from day 1 to 7. Select acupoints according to the Name and Location of the National Standard auricular acupoints of the People's Republic of China. Ear point pressure bean point: God gate, stomach, sympathetic, cortex, ear and spleen.

Location

God gate: The upper part of 1/3 of the triangular fossa, before the upper and lower feet of the opposite ear wheel cross, that is, the triangular fossa 4 area.

Stomach: Where the horn of the earring disappears, that is, area 4 of the ear concha.

Sympathetic: At the junction of the foot end of the opposite ear wheel and the inner corner of the ear wheel, which is the anterior side of the 6 regions of the opposite ear wheel.

Subcortical: The inner side of the tragus, that is, area 4 of the tragus.

Ear: At the foot of the ear wheel, that is, area 1 of the ear wheel.

Spleen: Below the BD line, above the outer concha cavity of the ear, that is, area 13 of the ear concha. (In the ear concha, make a horizontal line from the place where the foot of the ear wheel disappears to the edge of the ear conchae of the opposite ear wheel, set the intersection point as D and set the junction of the middle and rear 1/3 of the line from the foot of the ear wheel to the point D as B).

Operation method: The patient was asked to take a sitting or supine position, hold the ear wheel with thumb and index finger in one hand and hold a cotton swab in the ear from top to bottom to find the corresponding acupuncture point and then disinfect the corresponding acupuncture point with 75% alcohol cotton ball, stick the spare Wang Zhuxing seeds in the center of the medical tape 0.5×0.5 cm size, apply to the corresponding acupuncture point and give appropriate pressure. So that the auricle has a fever and distending pain (that is, "gas"). Ask the patient to press by himself, 30 to 60 sec per point, press 3 to 5 times per day, each time a single or two ears take turns and alter every day. In terms of nursing, patients should be asked to properly press, time should be adequate and ear point pressure beans could not be displaced, if there should be timely replacement.

Observe index

Safety index: (1) General conditions: Blood pressure, heart rate, breathing, weight, etc., (2) Blood routine examination, (3) Liver and kidney function, electrocardiogram, CEA and other tumor-related indicators and (4) Feasible adverse reactions such as clinical signs of adverse reactions, abnormal finding markers, severity, elimination methods, to objectively assess their safety.

Classification of nausea, vomiting and appetite: Nausea, vomiting and appetite were recorded according to NCI classification criteria for common toxic reactions.

Nausea classification; 0: No nausea, Grade I: Mild nausea, does not affect eating, Grade II: Obvious nausea, affecting eating and Grade III: Severe nausea, inability to eat and bed rest.

Grade of vomiting; 0: No vomiting; Grade I: Vomiting once in 24 hrs, Grade II: Vomiting is obvious, vomiting 2~5 times in 24 hrs and Grade III: Frequent vomiting, vomiting more than 6 times within 24 hrs.

Appetite classification: Level 0: Eating normally, Grade I: Amount of food is slightly reduced and more than 1/2 of the normal amount can be eaten, Grade II: Amount of food intake is significantly reduced and the amount of food intake is less than 1/2 of the normal amount and Grade III: Cannot eat.

Evaluation of antiemetic effect: Complete control (CR): No vomiting; Partial control (PR): Vomiting once in 24 hrs, Mild control (MR): Vomiting 2-5 times in 4 hrs, Ineffective (F): Vomiting more than 6 times within 24 hrs. Complete remission rate: 100% CR/N X (The total number of N said).

Vomiting episodes: Vomiting 1 time or vomiting several times in a row, the relief time is not more than 1 min or several dry heaves lasting less than 5 min or several times retching with duration $\leq$5 min with several times vomiting with relief duration less than 1 min.

KPS scoring standard: The KPS score was evaluated once before treatment and once after treatment. The KPS scores before and after treatment were compared. Improve: Score increased by 10 or more points, Decrease: The score is reduced by more than 10 points and Stable: Score increases or decreases <10 points.

Observation of adverse reactions: During the study period, the adverse event record form was truthfully filled in. After adverse events occur and are treated, patients should be followed up within 1 month until they disappear, to ensure the safety of patients.

Statistical analysis: Licensed SPSS 24.0 software was employed for data analysis. In the baseline data, quantitative variables by normal distribution were represented by Mean±Standard Deviation, continuous variables not conforming to normal distribution were represented by median (or interquartile) and qualitative variables were represented by rate or component ratio. The Kolmogorov-Smirnov test was employed to authenticate the data normality. To minimize selection bias, the baseline data of the two groups of patients were matched with the matching method of the propensity score. When quantitative variables did not harmonize with the normal distribution, the Mann-Whitney rank sum test was employed for comparison of inter-group; when quantitative variables conform to the normal distribution, using comparison independent sample t-test and one-way ANOVA, compare two or multiple groups of quantitative variables and by using Chi-square test or Fisher exact test compare qualitative variables. While $p<0.05$ was considered statistically significant.

RESULTS

General data comparison: In this study, 50 patients with malignant tumor undergoing chemotherapy were admitted between October, 2020 and October, 2022. By random number table method, they were divided into experimental group and untreated groups, consisting of 26 patients in the experimental group and 24 patients in the untreated group. There were 23 males and 27 females with an average age of 50.48±7.63 years. After analysis, it was found that there was no remarkable variation in the age and gender composition ratio among the two groups ($p>0.05$) (Table 1). The present investigation observed the incidence of many diseases, including lung cancer, nasopharynx cancer, colorectal cancer, ovarian cancer, breast cancer and stomach cancer. Upon conducting a study, it was determined that there were no significant variations in the content of diseases between the two groups ($p>0.05$) (Table 2). The KPS score was assessed both before and during the administration of therapy. Upon doing a study, it was determined that there was no statistical significance in the variance of KPS scores between the two groups ($p>0.05$) (Table 3).

The chemotherapeutic evaluation included the utilisation of cisplatin, paraplatin, nedaplatin and carboplatin. Upon conducting a study, it was determined that the disparity in the composition of chemotherapeutic drugs between the two groups did not exhibit statistical significance ($p>0.05$) (Table 4). As can be seen from the above statistical results, there was no statistical significance in age, sex, disease, KPS score and chemotherapy drug composition in the two groups. It can be seen that the two groups were evenly divided and the baseline condition was good, indicating that the two groups pre-treatment data were comparable.

Table 1: Comparison of age and gender composition among the two groups

Group	Case	Male	Female	20-40 (years)	41-60 (years)	61-80 (years)
Experimental	26	15	11	6	15	5
Untreated	24	8	16	5	13	6

Table 2: Comparison of disease composition among the two groups

Group	Case	Lung cancer	Nasopharynx cancer	Colorectal cancer	Ovarian cancer	Breast cancer	Gastric cancer
Experimental	26	12	3	3	3	3	2
Untreated	24	9	6	2	2	4	1

Table 3: Comparison of KPS scores among the two groups

Group	Case	60	70	80	90
Experimental	26	2	6	15	3
Untreated	24	1	9	13	1

Table 4: Comparison of chemotherapy drug composition among the two groups

Group	Case	Cisplatin	Paraplatin	Nedaplatin	Carboplatin
Experimental	26	4	2	14	6
Untreated	24	3	2	12	7

Table 5: Comparison of nausea efficacy among the two groups

Time	Group	Case	0	I	II	III	Complete control rate (%)	χ^2	p-value
Day 1	Experimental	26	20	2	1	3	76.9	0.651	0.420
	Untreated	24	16	5	2	1	66.7		
Day 2	Experimental	26	19	5	1	1	73.1	5.055	0.025
	Untreated	24	10	6	4	4	41.7		
Day 3	Experimental	26	18	3	3	2	69.2	5.059	0.025
	Untreated	24	9	5	6	4	37.5		
Day 4	Experimental	26	17	6	2	1	65.4	5.128	0.024
	Untreated	24	8	8	5	3	33.3		
Day 5	Experimental	26	15	6	4	1	57.7	4.121	0.042
	Untreated	24	7	8	5	4	29.2		
Day 6	Experimental	26	16	6	3	1	61.5	3.978	0.046
	Untreated	24	8	6	5	5	33.3		
Day 7	Experimental	26	18	4	3	1	69.2	6.443	0.011
	Untreated	24	8	6	6	4	33.3		

Table 6: Comparison of antiemetic effect among the two groups

Time	Group	Case	0	I	II	III	Complete control rate (%)	χ^2	p-value
Day 1	Experimental	26	19	4	2	1	73.1	0.642	0.423
	Untreated	24	15	5	3	1	62.5		
Day 2	Experimental	26	21	3	1	1	80.8	4.059	0.044
	Untreated	24	13	6	3	2	54.2		
Day 3	Experimental	26	20	2	2	2	76.9	3.926	0.048
	Untreated	24	12	6	5	1	50.0		
Day 4	Experimental	26	18	5	2	1	69.2	5.059	0.025
	Untreated	24	9	6	5	4	37.5		
Day 5	Experimental	26	19	3	2	2	73.1	7.936	0.005
	Untreated	24	8	8	4	4	33.3		
Day 6	Experimental	26	20	4	1	1	76.9	7.962	0.005
	Untreated	24	9	7	5	3	37.5		
Day 7	Experimental	26	17	4	4	1	65.4	6.559	0.010
	Untreated	24	7	8	5	4	29.2		

Table 7: Comparison of appetite improvement among the two groups

Time	Group	Case	0	I	II	III	Complete control rate (%)	χ^2	p-value
Day 1	Experimental	26	17	5	2	2	65.4	0.263	0.608
	Untreated	24	14	7	2	1	58.3		
Day 2	Experimental	26	18	4	2	2	69.2	6.443	0.011
	Untreated	24	8	7	6	3	33.3		
Day 3	Experimental	26	17	5	3	1	65.4	5.128	0.024
	Untreated	24	8	8	6	2	33.3		
Day 4	Experimental	26	16	5	4	1	61.5	5.265	0.022
	Untreated	24	7	8	6	3	29.2		
Day 5	Experimental	26	15	6	3	2	57.7	5.476	0.019
	Untreated	24	6	9	6	3	25.0		
Day 6	Experimental	26	19	4	2	1	73.1	0.642	0.423
	Untreated	24	15	5	3	1	62.5		
Day 7	Experimental	26	21	3	1	1	80.8	1.290	0.256
	Untreated	24	16	4	2	2	66.7		

A comparison of nausea efficacy was expressed in Table 5. The complete control rate of nausea in the experiment group was greater compared to the untreated group. The complete control rate of nausea on day 1 in the experiment group and the untreated group was 76.9% and 66.7%, respectively and there was no statistically remarkable variation among the two groups after the test, $p>0.05$. From day 2 to day 7 of chemotherapy, the Chi-square test results indicated $p<0.05$, representing a statistically significant variation among the two groups.

A comparison of antiemetic effects was shown in Table 6 that the antiemetic effect of the experimental group is higher compared to the untreated group. In this study, the complete control rate of acute vomiting was 73.1% in the experiment group and 62.5% in the untreated group, with no statistical variation among the two groups ($p>0.05$). The complete control rate of tardive vomiting is shown in Table 6. After testing, $p<0.05$ and the variation among the two groups was statistically significant.

Table 8: Comparison of KPS score changes among the two groups after treatment

Group	Case	Improve	Stable	Decrease
Experimental	26	6	17	3
Untreated	24	5	14	5

Table 9: Comparison of symptoms caused by antiemetic drugs among the two groups

Group	Case	Swirl	Headache	Abdominal discomfort	Constipation	Extrapyramidal reaction	Occurrence rate (%)
Experimental	26	2	3	2	2	0	34.6
Untreated	24	5	4	3	3	1	66.7

The loss of appetite in the two groups during treatment was compared. Table 7 shows that the loss of appetite in the treatment group progressed more slowly compared to the untreated group. The situation of appetite loss among the two groups on day 1, 6 and day 7 was compared, respectively ($p>0.05$) and there was no significant variation among the two groups; on day 2, 3, 4 and day 5 ($p<0.05$), the comparison among the two groups was statistically significant. Comparison of KPS score changes among the two groups after treatment were expressed in Table 8. After analysis, it was found that there was no statistically remarkable variation in KPS score changes among the two groups after treatment ($p>0.05$). A comparison of related symptoms caused by antiemetic drugs was shown in Table 9. In this test, 9 patients in the experimental group showed symptoms related to chemotherapy, significantly less than 16 patients in the untreated group. The variation among the two groups was statistically significant ($p<0.05$).

DISCUSSION

The present study observed the nausea grade of 50 patients from day 1 to 7 of treatment and analyzed their clinical data. In terms of reducing the degree of nausea, the total control rate of nausea after chemotherapy was greater than that of the Western medicine group alone. The test results showed that the results from day 2 to 7 suggested that $p<0.05$ and the variation among the two groups was statistically significant. These results indicated that the treatment of ear-point compression beans can relieve the occurrence of nausea after chemotherapy and reduce the degree of nausea. There was no statistical significance between the experimental group and the untreated group on day 1 ($p>0.05$). These results indicated that there was no significant advantage between the experimental group and the untreated group in controlling nausea on day 1. In this study, acute vomiting and delayed vomiting after chemotherapy were observed. The antiemetic effect of the experimental group was greater compared to the untreated group. The complete control rate of acute vomiting was 73.1% in the experimental group and 62.5% in the untreated group. The comparison among the two groups was not statistically significant, indicating that the experimental group had no advantage over the untreated group in the treatment of acute vomiting. The variation in complete control rate among the two groups was statistically significant, indicating that the effect of auricular acupoint compression and palonosetron combined with palonosetron was significantly better than palonosetron alone for delayed vomiting. Auricular point pressure bean and antiemetic drugs play a complementary effect and the combination of the two can jointly improve the control rate of vomiting after chemotherapy.

In this study, the two groups of patients in the course of treatment of appetite loss were compared, the treatment group has a significant advantage over the control group, indicating that auricular point pressure bean treatment can effectively improve patients after chemotherapy appetite loss. As a kind of exogenous evil, chemotherapies damage the spleen and stomach and cause weakness of the spleen and stomach. The spleen does not transport water wet, wet turbid endogenous. During chemotherapy, patients have more beds, less activity, internal dampness easy to born, spleen deficiency dampness evil into, internal and external dampness evil combination and trapped the spleen, spleen and stomach transport dereliction of duty and poor tolerance[13,14]. Auricular point pressure bean can adjust the middle-Jiao qi machine, so that the spleen and stomach transport function can be restored, thereby improving appetite[15].

In this study, the changes in KPS scores were analyzed and observed. There was no remarkable variation in KPS scores among the two groups after treatment. It is suggested that the effect of auricular point compression on the KPS score of patients after chemotherapy is not obvious. The study results are not as good as the expected results and the possible factors are analyzed: (1) The onset time of ear point pressure is slow and the effect needs to be cumulative, (2) Due to the short study time, the KPS score did not change significantly in the short term, even if there was a large individual change, it would not affect the overall change and (3) Small sample size may result in statistically insignificant results for variables. In the future study design, with the increase of sample size, we will try to find other effective and rapid Chinese medicine treatment combined treatment for the improvement of patient's quality of life. In addition, the occurrence of related

symptoms induced by antinausea drugs in the experimental group was remarkably lesser compared to the untreated group, indicating that the auricular point pressure could alleviate the related symptoms caused by antinausea drugs in this study.

As early as 2000 years ago, the medical silk book "Yin and Yang Eleven Pulse Moxibustion Classic" recorded "ear pulse", "internal classic" on the ear meridians, different channels and channels of the relationship made a more detailed explanation[16]. As "Spiritual pivot: Mouth question" said: "The ear of the family pulse gathered also". "Su Question: Miao Thorn", said "Hand Shaoyin, Taiyin, foot Yangming collages, these five will be in the ear", "The ear is the Zong pulse of the gathering, twelve channels through the ear". This shows that the meridians of the ear region and the whole body are connected[17,18]. The ear is closely related to the five viscera and six fu organs. The three Yang channels of the foot the three Yang channels of the hand and the three Yang channels of the hand and the three Yin channels of the foot are directly connected with the ear through different branches of the Yang channel[19,20]. Modern medical research shows that there is abundant neurovascular lymphatic distribution on the auricle and interwoven into bundles. When the internal organs of the human body or the body are sick, there is often a reaction on a certain part of the body surface and changes such as discolouration, deformation, vascular filling, desquamation, papules and other changes in the corresponding part of the ear, as well as tenderness sensitivity, skin resistance changes, etc.[21]. These changes are called positive reactions. People make use of these characteristics, the application of auricular inspection, palpation, tenderness, electrical measurement, etc., can roughly understand the human internal organs, bodies and facial lesions, to give a certain basis for the diagnosis of the location of the disease[18,19]. It is generally believed that when a certain part of the body is sick, there will certainly be positive reaction points on the corresponding point area of the auricle. Auricular pressure bean combines the viscera and meridians theory of traditional Chinese medicine, applied to auricular treatment and stimulates the auricular point, you can adjust the meridians, conduction induction, adjust the deficiency and reality so that the functional activities of all parts of the human body are adjusted, in order to maintain a relative balance and achieve the purpose of treating diseases[22,23].

Particular point sticking to treat diseases is one of the special treatments of traditional Chinese medicine. It was found that stimulation of the auricular stomach region can significantly affect the function of the stomach, that is, the strong peristaltic wave can be weakened and the weak can be strengthened. Auricular point pressure bean is widely used and many diseases are treated, such as constipation, hiccups, functional dyspepsia, cancer pain, postoperative gastrointestinal function recovery and menstrual disorders.

Nausea is the precursor to vomiting, but it can also occur alone, terminate on its own or be followed by retching. Some scholars have suggested that nausea is often the precursor symptom of vomiting and controlling the occurrence of nausea has important clinical significance for improving the efficacy of antinausea[24,25].

CONCLUSION

Auricular point pressure can not only control the degree of nausea and delayed vomiting but also effectively relieve abdominal distension, heat, pantothenic acid, nausea and other clinical symptoms, reducing the symptoms caused by antiemetic drugs. At the same time, ear point pressure beans are safe, have no obvious side effects and can benefit more patients with nausea and vomiting after chemotherapy, so it is worthy of clinical promotion and application.

SIGNIFICANCE STATEMENT

Surgery, chemotherapy, radiation, intervention, molecularly targeted medications and traditional Chinese medicine are the main treatments for malignant tumors. This research found that auricular point compression reduced platinum-induced vomiting and nausea, supporting therapeutic treatment. The current study found that auricular point pressure may reduce antiemetic drug-induced nausea, delayed vomiting, abdominal distension, heat, pantothenic acid and other clinical symptoms. However, ear point pressure beans are safe, have no known adverse effects and may help more chemotherapy patients with nausea and vomiting, making them worth clinical promotion and usage.

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