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Study effect of mint essence on pain, bloat and nausea in patients undergoing appendectomy

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ABSTRACT

Appendectomy is the most common surgery in the world. Pain, bloat and nausea are the most side effects after appendectomy that leads to high morbidity and dissatisfaction in these patients. Herbal therapy is one the treatment .This study conducted aimed to investigate the effect of super mint on pain, nausea and bloat of patients undergoing of appendectomy. This study was a double-blind clinical trial that has been conducted on 82 patients (control group: 41 patients) and (case group: 41 patients) that were undergoing appendectomy in first 24h in Ariashahr hospital at Mashhad city. Super mint and placebo have been used by patients by oral feeding in five steps with 20 minute intervals. The Pain, bloat and nausea have been measured by use of Visual Analogue Scale (VAS) questioner that approved in different studies. Age ranges of patients were 15-52 year. Descriptive tests showed that two group in to age, sex, operation time, anesthesia and awaken time were similar and not found significant difference. The results showed that oral feeding of super mint led to decrease pain (p=0.04), nausea (p=0.01) and bloat (p=0.03). According to the results of present study it seems that feeding use of super mint in 24 h of postoperative time lead to decrease pain; nausea and bloat in patients were that undergoing appendectomy.

Key words: Super mint, Pain, Nausea, Bloat, Appendectomy

INTRODUCTION

Appendicitis is the most common cause of acute inflammation that leads to emergency abdomen surgery. Appendicitis occurs in any ages but it is common in ages of 10 to 30 years old (1, 2). About 7 % of individuals suffer from it and it is sex ratio is 3:1(female: male).(3), selective treatment for appendicitis is appendectomy (4). Appendectomy is the most common type of surgery in the world (5) and it is rate in America is 250000 case per year (6). Suffering from the pain specially in suture site is one of the most complaint in patients undergoing appendectomy(7, 8). About 30% to 40% of patients that were undergoing abdominal surgery suffer from moderate to severe level of the pain (9). Pain Relief after the surgery is one of the main concerns of nurses and physicians that it is the base of nursing cares.

Chung, Joanne WY showed that pain is one of the most problems in the surgery units and 85% of patients suffer from pain (10) patients undergoing appendectomy suffering from pain and it leads to decrease in cough rate, Atelectasis ,accumulation mucus and decrease of bowel movement, although decrease of bowel movement leads to ileuses, anxiety, fatigue and increase Deep vein thrombosis (DVT) risk (7) . The common causes of morbidity in these patients are nausea and vomiting that occurred in after anesthesia and their prevalence is about 20 to 40 % (11). Nausea and vomiting after surgery along with inconvenience and dissatisfaction in patients lead to delay in theses patient discharge, electrolyte disorders, decrease of total body water, inosculate sutures, bleeding and

aspiration pneumonia (12). In the other word , after most of the abdominal surgeries gastrointestinal motion stopped temporarily that lead to accumulation gases and secretions in the abdomen, bloat that associated with food liquids and solids Intolerance, nausea , vomiting and disability to gases disposal (13-15) . In the other hand bloat can lead to pain in these patients (16) .

Due to growing of population, surgeries play a key role in return of patients to their earlier function. The patients that need to appendectomy increase daily so prevention of the surgery side effect is very important (4). There are different common treatments for relief pain after surgery. There treatments includes: Non steroidal anti-inflammatory drugs(NSAISDs) and use of epidural nerve block that there treatments can be associated with some side effects such as nausea ,vomiting ,constipation, purists and respiratory and cardiac suppression (16).

NSAIDs may lead to some side effects in skin, renal (Analgesic nephropathy) and digestive problems (Peptic ulcer) (17). There are methods such as early walk, early oral feeding and nausea gastric tube that use for reduction of bloat and use of these methods are always associated with dissatisfaction and some side effects for patients (10, 17). Also anti nausea drugs are associated with adverse side effect and expensive (4). Therefore, it is so important to use of alternative treatments that could be cheap, available and with low side effects.

Use of Herbal therapy was common in ancient centuries and these days are used as a therapeutic method in the world (18). Oral super mint is a new drug in Iran that has been extract from mint (scientific name of Mentha). Proper use of oral super mint by treatment dose has not shown any side effects (13). Other researchers have been shown super mint oil suppressed contractions due to cellular depolarization and also lead to block Calcium channels. It also has anticlastic effect on soft muscles (19). Schuster, Rob showed that feeding of super mint can cure abdominal cramps (20). Merat et al approved the effectiveness of super mint essence on decrease of pain in patients with Irritable bowel syndrome (IBS) (21). Till now some studies have been conducted on effect of different species of mint plant to reduce pain and bloat but don't found study that has been investigated effect of super mint on bloat, pain and nausea at appendectomy patients.

Objectives: Study Effect of Super mint on pain, bloat and nausea in patients undergoing appendectomy.

MATERIALS AND METHODS

Study Design and patients:
This study was double-blind clinical trial that has been conducted on patients undergoing appendectomy surgery in Ariashahr hospital at Mashhad city. Inclusion criteria were: age above 18 year, history of appendectomy in last week. Exclusion criteria were: lack of underlying disease such as diabetes and hypothyroidism, addiction, BMI lower 16 and history of surgeries except appendectomy, sickness motion, renal and cardiac disease ,having perforation, peritonitis and bloat before surgery (4, 21). Sample size was 82 patients that selected by accessible sampling method, these patients divided in two groups: control group (41 patients) and case group (41 patients). All patients have been operated by the same physician and anesthetist and anesthesia protocol has been done similarly for all patients .All the information related to the time of Anesthesia and operation has been collected after transferring of patients to ward. The aim of this study was described for them in case of patients consent towards participation in this research the documents concerned with their satisfaction have been collected. Pain, bloat and nausea assessment by use VAS questioner

Instrument:
For complete this VAS questioner requested from patients that determination severity of their pain, bloat and nausea by tike on VAS scales. A Visual Analogue Scale (VAS) is a measurement instrument that tries to measure a characteristic or attitude that is believed to range across a continuum of values and cannot easily be directly measured. For example, the amount of pain that a patient feels ranges across a continuum from none to an extreme amount of pain. From the patient's perspective this spectrum appears continuous ± their pain does not take discrete jumps, as a categorization of none, mild, moderate and severe would suggest. It was to capture this idea of an underlying continuum that the VAS was devised. Operationally a VAS is usually a horizontal line, 100 mm in length, anchored by word descriptors at each end, as illustrated in Fig. 1. The patient marks on the line the point that they feel represents their perception of their current state. The VAS score is determined by measuring in millimetres from the left hand end of the line to the point that the patient marks. Figure 1 Effects of the interpersonal, technical and communication skills of the nurse on the effectiveness of treatment. There are many other ways in which VAS have been presented, including vertical lines and lines with extra descriptors. Wewers & Lowe (1990) provide an informative discussion of the benefits and shortcomings of different styles of VAS. As such an assessment is clearly highly subjective, these scales are of most value when looking at change within individuals, and are of less value for comparing across a group of individuals at one time point. It could be argued that a VAS is trying to produce

interval/ratio data out of subjective values that are at best ordinal. Thus, some caution is required in handling such data. Many researchers prefer to use a method of analysis that is based on the rank ordering of scores rather than their exact values, to avoid reading too much into the precise VAS score. The reliability and validity of the Visual Analogue Mood Scale (VAMS) has been approved in different studies with Cronbach's alpha of 0.78 and 0.87 respectively (22, 23) .

. Table 1. Visual Analogue Scale (VAS) Scoring of questioner explained in

Stage / scale	Pain	Bloat	Nausea
No –Green	0	0	0
Low-blue	1	1	1
Average –yellow	2	2	2
Often sever –orange	3	3	3
Sever-red	4	4	4

Mint and placebo that before coded and unanimous for researcher up to 40 droplets in 30 ml water and use by patient three periods after start oral feeding with 20 min interval and after intervention every 20 min, 120 min checked and filled the questioner.

Data analysis

Descriptive tests of the frequency, frequency percentage, mean, and standard deviation were used to describe sample demographics. For assessment Effect of super mint on pain, nausea and bloat in different duration were examined using repeat measurement test. Data normality by K-S test was used to evaluate data normality; Chi-square test and independent t-test were applied to investigate homology of two groups. SPSS v18 was used to analyze data. Confidence interval of 95% and a significance level of P-value less than 0.05 was considered significant. This study approved by ethical committee of Zabol University of medical science.

RESULTS

In this study assessed 82 patients that 43 were female and 39 were male. Age ranges of patients were 15-52 year. Descriptive tests showed that two group in to age, sex, operation time, anesthesia and awaken time were similar and not found significant difference.

Table 1: Demographic and operation information of patients undergoing appendectomy

	Super mint	Placebo	P value
Age	28.7±9	28.7±9	P=0.9
Gender Male Female	 22(53.7%) 19(46.3%)	 19(46.3%) 22(53.7%)	 P=0.2
Body Mass Index(BMI)(kg/m2)	23.2±2	24.5±11	P=0.2
Operation time (minute)	29.5±10.9	29.7±10.6	P=0.7
Anesthesia time (minute)	77±15	75.6±14	P=0.5
Awaken time (minute)	4.2±1.4	4.06±1.2	P=0.5
Start oral feeding (minute)	7.6±1.6	7.7±1.8	P=0.7

Repeat measurement test used for assessment effect of super mint on pain in different duration time that result showed pain reduced more in patients that received super mint than patients of placebo group ($p<0.05$). About super mint effect on nausea results showed a significant differ between two group in different duration times ($p<0.05$). Results about bloat showed patients that use from super mint suffer lower than patients that used placebo ($p<0.05$).

Table 2- Pain, Nausea and Bloat in super mint and placebo groups in different duration time

Group / Scale	Super Mint	Placebo	p
	Mean ±SD	Mean ±SD	
Pain			
Before intervention	2.7±0.7	2.6±1.03	
First 20 minute after intervention	2.1±0.9	2.2±0.9	p<0.05
Second 20 minute after intervention	1.8±0.8	2.1±0.9	
Third 20 minute after intervention	0.9±0.8	1.6±0.9	
120 minute after intervention			
Nausea			
Before intervention	2.3±1.2	2.4±0.9	
First 20 minute after intervention	2.6±4.6	2.07±0.9	p<0.05
Second 20 minute after intervention	1.3±0.7	1.9±0.8	
Third 20 minute after intervention	0.8±0.7	1.6±0.8	
120 minute after intervention	0.7±0.7	1.3±0.8	
Bloat			p<0.05
Before intervention	2.2±1.0	2.3±1.1	
First 20 minute after intervention	1.6± 0.9	2.0±1.0	
Second 20 minute after intervention	1.2±0.8	1.8±0.9	
Third 20 minute after intervention	1.02±0.8	1.4±1.0	
120 minute after intervention	0.87±0.8	1.4±0.8	

Chi-squire test result don't show significant different between age, gender, operation time ,Anastasia time and oral feeding time with pain ,nausea and bloat.(P<0.05).

DISCUSSION

The result of this study showed a positive effect of super mint essence on pain, nausea and bloat at postoperative stage in appendectomy patients. The similar study has been carry out by rokn ababdi et al that revealed super mint reduce pain more than Ibuprofen tablet in the patients suffering from Dysmenorrheal more than ibuprofen tablet (24) fazel et al although showed that super mint reduced pain after cesarean (25) .

The Results of this study bloat showed positive effect of super mint on bloat in patients of postoperative appendectomy, in another study has been done by vojdani et al on Irritable bowel syndrome (IBS) patients showed super mint essence reduced bloat compare to placebo (26). Thampson et al also showed that arrhythmia symptoms (bloat, Chest pain, Shortness of breath, Lightheadedness, Dizziness) reduced after use of super mint and Cumin essence (27) .

Meyrick et al reported that super mint lead to significant reduction in common digestive symptoms such as: pain severity and feeling of pressure (28). Agah et al compared the effects of dimmeticon and carment and they showed that carment was more effective than dimmeticon on bloat of patients (29).In this study there was a significant relationship between feeding of super mint and reduction of nausea severity.

In another clinical trial Tate et al has been investigate the effect of super mint on postoperative nausea. The results of that study showed that feeding of super mint in patients led to less pain and less amount of anti nausea drugs. These results are in line with the results of our study.(30). But In contrast to our study Najafi et al that investigated mint effect on postoperative nausea and vomiting showed recuperation in two groups is similar. The possible reason for this difference is how you use the mint in two studies that in Najafi study use aromatherapy and in present study use oral mint and different patients that participated in studies (31). Zakaria and pei Lin Lua shosed Inhalation of Steam mint lead to reduce of nausea and vomiting severity and decrease need for anti nausea drugs and at least lead to improvement of patient satisfaction (32).

CONCLUSION

According to the results of present study it seems that use of super mint in 24 h postoperative time lead to decrease pain; nausea and bloat in patients were undergoing appendectomy.

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