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Research Article

The Efficiency of Alternative Method for Stomach Pain When Patients Took Salt and Water Without Using Medications

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Abstract

In this paper we analyzed the impact of using of water and salt like a helpful in improving the symptoms of stomach pain. 416 patients (male, 74.1%; mean, 41.7 years old) with stomach pain were randomly allocated to two groups. For six weeks, investigated group of patients, 208 patients ingested at least 2 liters per day of water and 1 gram of salt, while the control group of patents, 208 patients ingested only water. Stomach pain scores (quality-of-life, abdominal pain/discomfort) were assessed before and after treatment via questionnaires. In our investigations exist statistically significant correlation between stomach pain and using of salt and water like a therapy for stomach pain (c^2=1.981; p>0.05). 200 patients with salt and water therapy did not have stomach pain one hour after therapy or 96.2% and 189 patients who took only water, had stomach pain and one hour after therapy with water every time in six weeks or 90.9%. In our research exist a statistically significant relationship between stomach pain after therapy with salt and water and male gender (c^2=31.482; p<0.01). Of the total 8 patients with stomach pain after using therapy with salt and water, 6 patients were male or 72.5%, while only 2 patients were female or 27.5%.

Keywords: *Alternative Method; Functional Dyspepsia; Stomach Pain; Therapy with Salt and Water*

Introduction

The term dyspepsia was used to explain abdominal pain centered in the epigastrium associated with different heterogeneous gastrointestinal disorders. Functional dyspepsia (FD) is in the middle of this investigation, and common that abdominal pain exist without of organic cause whose could be diagnosed by endoscopy.

Stomach pain and discomfort have been reported since ancient times. The term "dyspepsia" appeared in the mid 18th century and since then it has became usual term [1]. Dyspepsia in the 18th century was thought like one of the "nervous disorders" with hypochondria and hysteria [2].

When finish investigations dyspeptic disorders should be differentiated like organic dyspepsia and functional dyspepsia. For organic dyspepsia exist anatomic or pathophysiologic reason for the dyspeptic disorders, such as an ulcer disease or mass. The diagnosis of functional dyspepsia has been made after a number of investigations were made including upper gastrointestinal endoscopy and everything was normal [3].

The rationale for the wide use of acid-suppression medications in functional dyspepsia was that acid could be involved in pain-producing mechanisms. Ironically, normal gastric acid secretion was documented in individuals with FD [4]. One of the mechanisms probably involved in producing the pain might be hypersensitivity to normal acid secretion [5], as gastric acid secretion is normal in individuals with FD [4].

The role of *Helicobacter pylori* in the pathogenesis of FD has been extensively explored. *H. pylori* may cause inflammation and dysmotility, probably initiates visceral hypersensitivity, and alters acid secretion, Large population studies have shown that *H. pylori* is more frequently detected in dyspeptic patients than in controls [6], other smaller studies demonstrated a lack of association between *H. pylori* positive or negative status and FD symptoms [7,8].

Methods

We analyzed the influence of therapy with salt and water on 416 patients with functional dyspepsia and stomach pain at the Department of General Surgery in Belgrade in the period from 1st January 2018 to 31st October 2019. Every patent took his therapy in period of six week at home. We organized our research like a prospective study. Investigated patients were divided into two groups: a group of patients who had stomach pain and who took therapy with salt and water with 208 patients and a control group of 208 patients who had stomach pain and who used therapy only with water. Stomach pain scores (quality-of-life, abdominal pain/discomfort) were assessed before and after treatment via questionnaires. Statistical s ample size is determined by the statistical methodology to meet the basic principle of representativeness. In this paper, results are presented in graphics. In statistical analysis we used parametric tests (Student's t-test) and nonparametric Chi-square test. For statistical analysis we used the software package SPSS 14.0, and the imaging table and a Microsoft Office Word 2007.

Research Results

Of the 416 patients examined, 208 took salt and water like a therapy for stomach pain or 50.0% and 208 patients took only water like a therapy for stomach pain. In our study exist statistically significant correlation between stomach pain and using of salt and water like a therapy for stomach pain (c^2=1.981; p> 0.05). 8 patients who took salt and water, had stomach pain and one hour after therapy with salt and water every time in six weeks or 3.8% and 200 patients with salt and water therapy did not have stomach pain one hour after therapy or 96.2%. 189 patients who took only water, had stomach pain and one hour after therapy with water every time in six weeks or 90.9% and 19 patients with water therapy did not have stomach pain one hour after therapy or 9.1% (Figure 1).

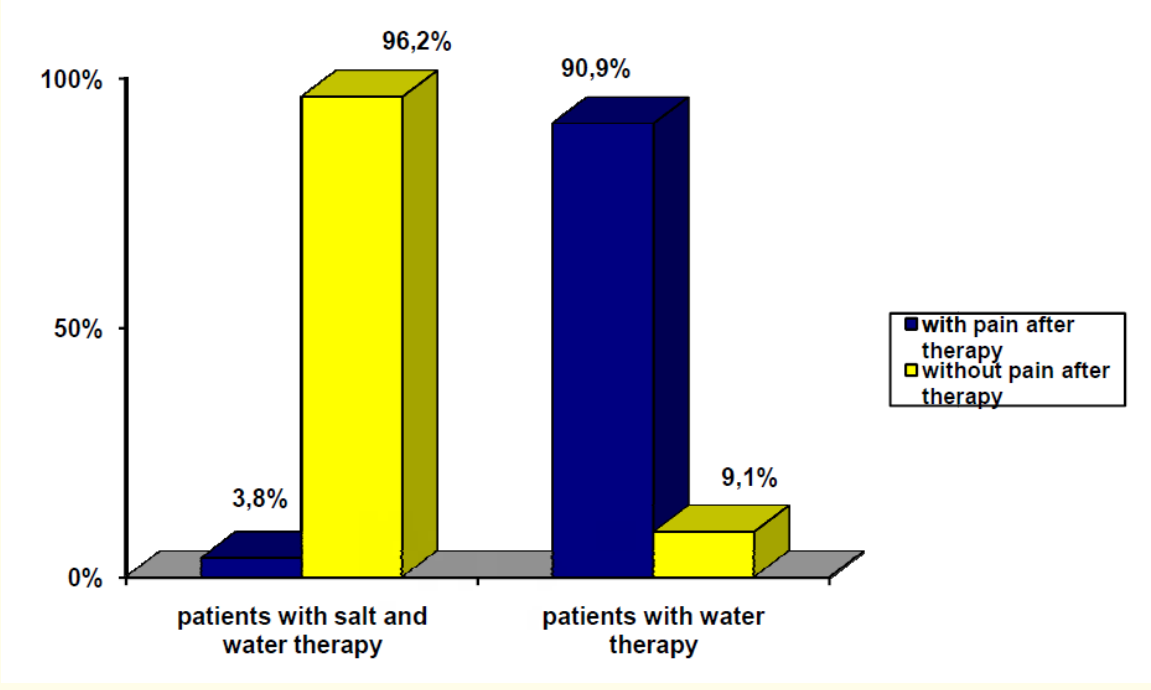

Figure 1: *The effect of using of salt and water like a therapy for stomach pain.*

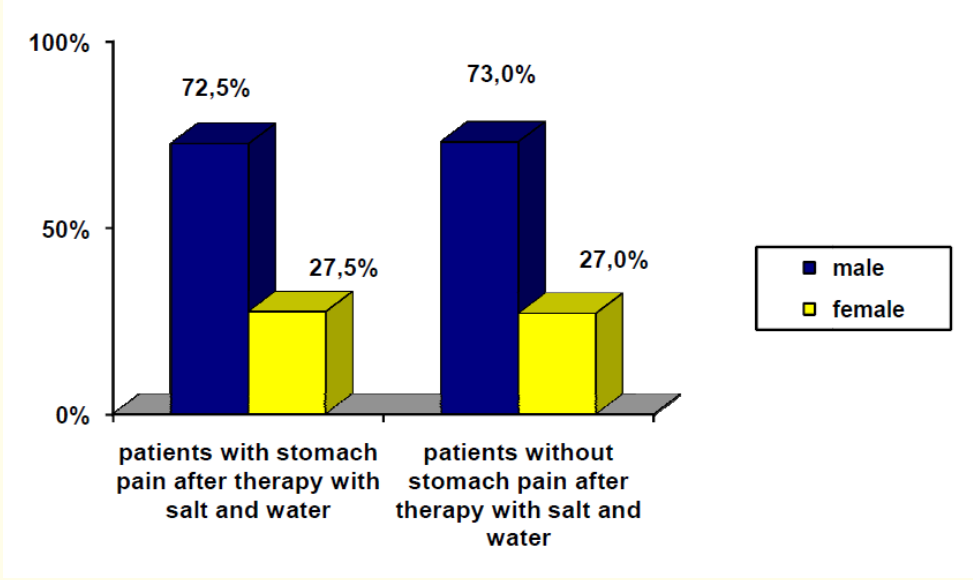

Figure 2: *Occurrence of stomach pain after therapy with salt and water in relation to patient gender.*

Of the total 8 patients with stomach pain after using therapy with salt and water, 6 patients were male or 72.5%, while only 2 patients were female or 27.5%. In our study exist a statistically significant relationship between stomach pain after therapy with salt and water and male gender (c^2=31.482; p<0.01). Of the patients who did not have a stomach pain after therapy with salt and water 146 patients were male or 73.0% and 54 patients without stomach pain after therapy with salt and wate r were female or\27.0% (Figure 2).

Discussion

Functional dyspepsia is disorder who appear very often in patients [9]. Sometimes when patients used medications stomach pain after therapy did not stop. In that situation patients take higher dose of medications or take a few medications and they have the side effects. Using of alternative therapies whose do not have side effects is future of medicine [10-14]. A lot of animal studies have investigated how acidity of the drinking water may treat functional dyspepsia. Several animal studies have shown alkaline-reduced water (ARW) to be successful like a therapy for dyspepsia, because it permanently denatures pepsin [15]. One animal study shown that t he animals who drunk more from 1.5 liters of bicarbonate-alkaline mineral water for 30 days lost dyspeptic symptom s [16]. Bicarbonate-alkaline mineral water may be the best therapy for functional dyspepsia and for better gastrointestinal motility [17]. All this studies support the hypothesis that ARW may be very good therapy for functional dyspepsia. Before our study, nobody did not made human clinic al trials with water and salt like a therapy for functional dyspepsia. In our study we research patients who took salt and water for six weeks and how that influence on their symptoms of functional dyspepsia. In our study exist statistically significant correlation between stomach pain and using of salt and water like a therapy for stomach pain (c^2 =1.981; p>0.05). 200 or 96.2% patients of total 208 patients with salt and water therapy did not have stomach pain one hour after therapy.

The randomized controlled study was made to determine is possible when patients who drunk alkaline-reduced water lose abdominal pain, improve the quality of life, stool form, and stool frequency in diarrhea-predominant irritable bowel syndrome (IBS). Group of patients who drunk alkaline-reduced water had better results from control group of patients, but that result difference was not statistically significant. That is because small number of patients completed the investigation, but similar studies not exist. Patients who drunk ARW lost abdominal pain and had better quality of life than of patients who drunk placebo water. This is an important result because it shown that it is possible to improve IBS symptoms simply by drinking water with a different pH, without using medication [18].

ARW improves IBS symptoms by mechanism which is not clear. ARW has a pH of at least 8.4; tap or bottled water usual has a pH between 6.7 and 7.4 [17]. ARW probably increase the pH level of the stomach given its large amount of bicarbonate ions. ARW probably increase the pH level in the stomach because in ARW exist large quantity of bicarbonate ions. If we infuse 0.1 mol/L, a little quantity of acid in the stomach may make worse indigestion in most patients [19]. More acid in duodenum leads to proximal gastric relaxation and that is condition of the occurrence for dyspeptic symptoms [20]. In one of animal studies, the cause of dyspepsia may be acid and serotonin 5-HT3 receptors have the most important role [21]. Patients who had pancreatic insufficiency like as cystic fibrosis they had intestines smaller absorbtion because exposed to an acid. Fast regulation pH and neutralization of acid in intestinal system has important role in absorption of nutrient [22]. Patient who has drink water with a lot of minerals can lose symptoms of functional dyspepsia [23-26]. Carbonated water may influence on exocrine pancreatic secretion of patient and improve gastrointestinal motility. When patients more from fifteen days drink carbonated water they have more contractions of gallbladder muscle [26]. In patient who has indigestion problem and who drink water with a lot of mineral salts gastric emptying may be faster [27]. Different ions from water act on smooth muscle who has responsibility for motility of gastrointestinal system.

Gut microbiota is one of the most important factors for occurrence and for pathophysiology of IBS [28-29]. After acute gastroenteritis when patient has symptoms of dyspepsia is possible to make diagnose of postinfectious IBS [30]. Persistent low-grade inflammation is case of occurrence of postinfectious IBS. Contains of intestinal microbiota is very important factor for IBS pathophysiology and for the immune answer of host [31]. For occurrence of stomach pain is important the amount of Proteobacteria [32]. Using of probiotics, antibiotics and intestinal microbiota transplantation can be successful in improvement the IBS symptoms [33]. The normal gut microbiota in humans contains 96-99% of anaerobes and 1-4% of aerobes. When patients drink water and use salt, they may to lose characterized symptoms for functional dyspepsia and help the growth of anaerobic bacteria (Lactobacilli and Bifidobacteria) and they may stop the growth of aerobic pathogens.

Conclusion

Our study shown that therapy with salt and water may stop stomach pain and improve quality of patients life. Therapy with salt and water is a simple and inexpensive treatment and physicians may easy with salt and water treat functional dyspepsia.

In this paper, for the first time, we present the effectiveness of therapy with salt and water in the treatment of functional dyspepsia in humans. We believe our pilot study will be cornerstone for future investigations for using different alternative therapies without medications.

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