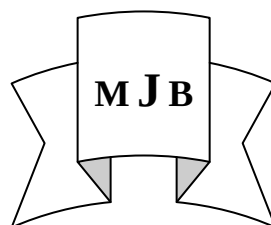


Nonorganic (Functional) Abdominal Pain in Children

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Abstract

Background: Nonorganic(functional)abdominal pain in children is common and similar in its presentation to many organic causes to the recurrent abdominal pain in children.

Patients and methods; These study was done on 100 children suffering from nonorganic (functional) abdominal pain in Al-Diwaniah province (in Iraq) and during one year (2010).Most of the patients have a strong family history of migraine, irritable bowel syndrome or both. Stress factors play an important role in provoking the symptoms in the patients, and removal of the stress factor is the main step in the treatment of this disease and leading to dramatic improvement of the pain. The stress factors were discovered easily by a short interview with child and his or her mother .

Results;Most of these stress factors were either from the brother or sister of the patient that were annoying the patients or from one of his or her colleagues in the school or from fear at night.

الخلاصة

الخلفية: تعتبر الام البطن غير العضوية من الامراض الشائعة عند الاطفال وتشابه الكثير من الامراض العضوية المسببة لإلام البطن المتكررة عند الاطفال.

المرضى وطرق العمل:اجريت الدراسة على ١٠٠ طفل يعانون من الام البطن غير العضوية المتكررة في محافظة القادسية(العراق) خلال سنة (٢٠١٠). معظم هؤلاء المرضى كان لديهم تاريخ عائلي كبير لمرضى داء الشقيقة او تهيج القولون او كلاهما. كان عامل الضغط النفسي يلعب دورا مهما في تحفيز اعراض المرض، وإزالة تلك العوامل يعتبر اهم خطوه في علاج المرض.

اكتشاف وتشخيص عامل الضغط النفسي يكون بسهوله جدا عن طريق استجواب قصير مع الطفل والام.

النتائج: وجد ان معظم عوامل الضغط النفسي كان مصدرها اما من الاخ او الاخت للمريض تؤدي الى ازعاج المريض بصورة متكررة ،او من زميل له او زميله لها في المدرسة او من خوف اثناء الليل.

Introduction

The exact prevalence of chronic abdominal pain in children is not known. It seems to account for 2% to 4% of all pediatric office visits [1].Unfortunately, there are many physical illnesses presenting with recurrent abdominal pain(RAP), and which may be clinically indistinguishable from the banal "psychosomatic" disorder. This is why the diagnosis must be made not merely by exclusion of organic causes, but after the identification of stress factors or emotional disturbance in the experience of the child and his immediate family [2].Chronic

abdominal pain lasted for more than six months with no associated weight loss, bleeding or diarrhea, a non-organic cause is most likely [3]. Nonorganic (functional)abdominal pain refers to pain that cannot be explained on a structural, physiologic, or biochemical basis [4].The pain is periumbilical , nonspecific and inconsistent, there is usually a secondary gain pattern(usually skipping the school) and the child manage to seek the attention of parents, nay the whole household [5]."The further the pain from the umbilicus, the greater the likelihood of organic disease" has held up well [6].More

than one third of children complain of abdominal pain lasting two weeks or longer [7]. The placement of conditions such as irritable bowel syndrome (IBS) within the diagnostic umbrella of recurrent abdominal pain is helpful. Many recent studies now identify a significant proportion of patients with recurrent abdominal pain as either clearly having IBS or going on to develop IBS [8,9]. Early investigators found an organic cause for recurrent abdominal pain in 5-10% of children, with the advancement in medical technology, including endoscopy, breath test for carbohydrate metabolism, intestinal motility and radiographic analysis, the percentage of patients with unexplained pain is decreasing [4].

Patients and Method

This case control study was done in my private clinic through about one year (2010). One hundred patient were included in this study, all of those patients were complaining from recurrent abdominal pain without any evidence of organic causes (nonorganic (functional) abdominal pain). A thorough history and examination were done to all those patients, and investigations were done including general urine exam, general stool exam, and abdominal ultrasound. Many cases were excluded from this study where organic causes discovered as a cause of recurrent abdominal pain like constipation, urinary tract infection, and renal stone. In this study we tried to find the stress factor causing this nonorganic abdominal pain by a thorough history taken from the child and his family, and we instruct the family to remove this stress factor from the life of

those patients to get improvement of the pain.

We have taken also a detailed family history of irritable bowel syndrome (IBS) and migraine in those patients complaining from nonorganic abdominal pain and in another group (100 patients as a control that consult the hospital due to different diseases rather than nonorganic abdominal pain) to see if there is any significant family history of IBS and migraine in those patients with nonorganic abdominal pain.

Results

This study included 100 patients diagnosed with nonorganic abdominal pain by a thorough history and exam and investigation, by exclusion of organic causes and finding the stress factors causing this pain.

The majority of the patients with nonorganic abdominal pain (56 patients) (56%) were at preschool age, while 44 patients (44%) were at school age.

More than 90% of them have a nervous personality (sensitive) and easily exited after even a minimal stress.

Most of those patients know the predisposing stress factors that provoke the symptoms in those patients and the child usually answers the question immediately about what disturbing them.

Eleven patients complaining from abdominal pain at night only and the predisposing stress factor of all those patients are the fear (either from animal (usually a cat or dog) or thief). The abdominal pain in all those patients was mild and for a short period and the child will forget the pain after a while, and we found that moderate to severe abdominal pain usually organic pain.

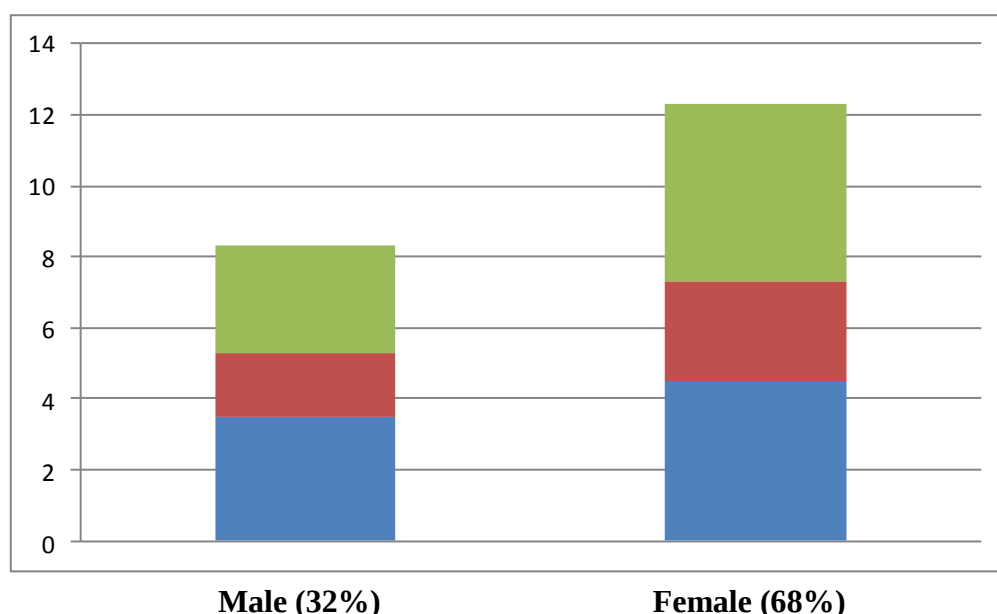


Figure 1 shows the sex distribution, 68% where female and 32% male.

The age distribution of the children with nonorganic abdominal pain shows that most of the patients (44 patients) 44% where between 6-12 years of age, and 29% of the patients where between 4-6 years of

age, 14% of the patients where between 3-4 years of age, and 13% of the patients where between 2-3 years of age as in table (1).

Table 1 shows the age distribution of the patients

The Age	2-3years	3-4years	4-6years	6-12years
The number of patients	13patients (13%)	14patients (14%)	29patients (29%)	44patients (44%)

Twenty-six (26%) patients have family history of irritable bowel syndrome (IBS) in their first degree relatives (father and mother) and in the second degree relatives (grand father and mother, aunts and uncles).

Seventeen (17%) patients have family history of migraine in the first and second degree relatives.

Thirty-seven (37%) of patients have family history of both IBS and migraine in the first and second degree relatives and only twenty patients (20%) have negative family history of IBS and migraine as in table (2).

We took another 100 patients randomly as a control, they were complaining from different diseases rather than nonorganic abdominal pain and the results were 17 patients (17%) have family history of irritable bowel syndrome, 12 patients (12%) have family history of migraine, 17 patients (17%) have family history of both irritable bowel syndrome and migraine, and 54 patients (54%) have negative family history of both irritable bowel syndrome and migraine as in table (2).

Table 2 shows the percentage of family history of IBS and migraine and both in the patients and the controls.

	IBS	migraine	Both	Non
patients	26patients (26%)	17patients (17%)	37patients (37%)	20patients (20%)
controls	17children (17%)	12 children (12%)	17 children (17%)	54 children (54%)

By comparing between the two groups of patients (100 patients with nonorganic abdominal pain and 100 patients without nonorganic abdominal pain) regarding family history of IBS between the two groups was not significant in Z-test by smith statistical program , and the P value was less than 0.1214 which is not significant , while in migraine the the P-value less than 0.3153 which is also not significant , while the difference in the family history of both IBS and migraine in the patients of nonorganic abdominal pain and the control were the Z-value =3.18 and the P-value less than 0.0014 which is very significant, and the difference between the two groups regarding the negative family history in both groups was very significant by Z-test by smith statistical program and the P value was less than 0.00001 which is highly significant.

The predisposing stress factors are different from each patient, but the most common predisposing stress factors are induced by one of their sibling (brother or sister) (81%).

In eleven patients (11%) the predisposing stress factor were feeling of fear either from animals or from thief. Six patients (6%) their predisposing stress factor was from the school. The stress factor in five patients was from one of their colleagues in the school, and one from her teacher.

Two patients (2%) their predisposing stress factor was from the death of one of their parents.

In this study we found that most of those patient have a nervous personality, and all of them exposed to stress factor that provoke the abdominal pain in those patients.

Unfortunately most of the stress factors are induced by the family of the patients and usually the brother or a sister of those patients causing the stress to the patients (81%).

While in 11% of the patients the stressful factor was feeling of fear, which is usually at night and usually induced by their family.

Discussion

It is not uncommon for children to present to general practitioners with abdominal pain which the doctor may suspect are principally psychogenic in origin. These pain tend to be non-specific and recurrent. The history should be taken from the child and the parents. All children should be examined, but investigations may not be needed. After excluding organic causes of pain, the possibility of a psychogenic cause should be sensitively discussed. [10]

In this study the detection of stress factor was very easy, by asking the child himself or herself this question (what is annoying you), the child will answer immediately that my brother or my sister or my colleagues in the school or my teacher is annoying me.

While if the pain was during the night only, so when you ask the child him or herself this question (what are you afraid of), the child will answer

immediately that I am afraid from the cat or the dog or the thief.

The detection of stress factors is very important in the diagnosis and treatment of nonorganic abdominal pain. Removal of the stress factor will lead to improvement in the pain.

A study done in San Francisco by William M. Liebman M.D on 119 patients with nonorganic abdominal pain, the socioenvironmental stress factors were marital turmoil in 44%, school activity in 32% and perfection in 30%.[11]

Another study done in India by Ritu Gupta, Ravinder K. Gupta shows that the psychological stress factor that provoke the nonorganic abdominal pain in children includes School phobia, sibling rivalry, unpleasant relations among parents and nocturnal enuresis were significant factors associated with non-organic causes.[12]

The results of these two studies that done in San Francisco and in India about the types of socioenvironmental stress factors that predispose to nonorganic abdominal pain were markedly different from the result of our study except in sibling rivalry in the study in India.

The pain in those children was mild and for a very short period, so whenever there is a moderate to severe abdominal pain and continue for a longer time we should think with organic cause rather than nonorganic abdominal pain.

As we found in this study whenever we remove the stress factor, the abdominal pain will improve.

The presence of a family history of both migraine and IBS in a child complaining from recurrent abdominal pain support the diagnosis of nonorganic rather than organic origin of this pain.

Conclusions

1-it is very easy to find the stress factor that provokes the abdominal pain by asking the child about what's annoying him or her.

2-whenever we remove the stress factor, the abdominal pain will improve.

3-there is a strong family history of both migraine and irritable bowel syndrome in the family of the patients.

4-it is important to explain to the family that the pain is not severe and for a short period and no specific treatment for this disease and will resolve with the time especially if the stress factor relieved.

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