

Original Research Article

Exploratory laparotomy in chronic non-specific pain abdomen in lieu of therapeutic and diagnostic aspect: a prospective non randomized trial on 40 patients

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ABSTRACT

Background: A significant number of patients attending surgical or medical out doors and clinics of prominent doctors, we find them having thick record files visiting from one doctor to another. Majority of such patients diagnosis remain “chronic pain abdomen” in spite of all possible investigations and all sort of recent and ancient medicines. Aim of this study is to analyze the diagnosis and therapeutic value of exploratory laparotomy.

Methods: A prospective non randomized study was done on 40 patients who follows our strict criteria and in spite of all relevant investigations’ diagnosis remain chronic nonspecific pain abdomen (CNSPA). Exploratory laparotomy was done and findings were recorded and analyzed to see its diagnostic and therapeutic value.

Results: Patients of appendicular (maximum 27.5%) and tubercular disease present within one year of first appearance of pain whereas those having bands and adhesions after two years. Overall exploratory laparotomy was diagnostic and therapeutic in 80% patients.

Conclusions: In selected patients of CNSPA exploratory laparotomy is therapeutic in 87.5% and diagnostic in 92.5% patients.

Keywords: CNSPA, Diagnostic, Exploratory laparotomy, Therapeutic

INTRODUCTION

If we scrutinize the patients attending medical or surgical OPD and clinics of busy doctors, we will find a significant number of patients carries a thick file full of prescriptions, investigations reports, wandering from one doctor to another. When we see such files, the diagnosis remains “chronic pain abdomen”. Our aim in this study was to go in depth of the problem and to treat surgically such patients. Such patients cannot do their work with full efficiency, which affect family financial condition and country economy. These patients constitute a considerable proportion in surgical wards, increases bed occupancy, manpower and cost of health services.

Comprehensive study by other authors indicate that in spite of all efforts >30% patients of chronic pain abdomen remain symptomatic.¹⁻⁶ This huge group of patient need surgical attention. Diagnostic exploratory laparotomy is often performed but infrequently discussed in patients of chronic non-specific pain abdomen. Plutes and Roonhuyze (1663) and Volter’s Midwifery (1679) gave a representation of the procedure “whenever there is doubt whether to operate or not to operate it is better to operate”. This age-old thought should be given its due credit. With the advent of safe anaesthesia and antibiotics the mortality after exploratory laparotomy alone is <1%.² Every patient of chronic pain abdomen mostly has a cause for its chronicity. When all diagnostic tools fail to

arrive at the diagnosis then exploratory laparotomy might give the answer.^{1,6-8}

METHODS

A prospective non-randomized study was done on 40 patients having chronic nonspecific pain abdomen (CNSPA) at NIMS Medical College, Shobha Nagar, Jaipur from January 2013 to June 2016 admitted in department of general surgery. Informed consent was taken from all patients included in the study.

The term chronic pain abdomen is very vague term. When a patient is suffering from pain abdomen for >3 months it is called chronic, that may be continuous or recurring at interval. In this study we have fixed up our own criteria in selecting the patients of chronic pain abdomen.

Criteria

Patient had chronic or intermittent pain abdomen of >3 months duration, all patients were over the age of 5 years, no response to medical treatment (antibiotics, antihelminthic and other), all routine and special investigations are within normal limit. No definitive clinical diagnosis could be possible. No psychological ailment found on psycho-evaluation.

In this study we have selected 40 patients who qualify our above criteria underwent following investigations.

Routine investigations

Complete blood count (CBC), erythrocyte sedimentation rate (ESR), RBS, liver function tests (LFTs), renal

function test (RFT), viral markers, BT, CT, serum electrolytes, random urine or stool examination, x-ray chest, x-ray FPA.

Special investigations

USG whole abdomen, upper GI endoscopy, barium enema or meal or follow through, IVU, sigmoidoscopy, colonoscopy, fine needle aspiration cytology etc.

After surgical exploration per operative diagnosis was made. Tissue were sent for histopathological examination (HPE) where ever indicated. After confirming the diagnosis all the patients having common pathology were grouped i.e. group-A: appendicular disease, group-B: Koch's abdomen, group-C: adhesions and bands, group-D: miscellaneous diseases, group-E: negative exploration.

All the patients were followed for 8-10 months. Special attention was given to those patients who didn't have any exploratory laparotomy findings but responded well after surgery.

RESULTS

Majority of patients of CNSPA were observed in the age group of 11 to 40 years (80%), with peak incidence of 37.5% in third decade of life. Elderly and young patients were less affected. Patients having appendicular pathology were found in 3rd and 4th decade of life. Tubercular pathology was found maximum in 2nd and 3rd decade of life. Adhesions and bands were observed in most active phase of life i.e. 3rd decade.

Table 1: Patients as per age, gender and occupation.

Classification factor		Patients		Group A		Group B		Group C		Group D		Group E	
		No	%	No	%	No	%	No	%	No	%	No	%
Age (in years)	5-10	2	5	-	-	1	2.5	-	-	1	2.5	-	-
	11-20	6	15	2	5	2	5	1	2.5	1	2.5	-	-
	21-30	15	37.5	2	5	2	5	7	17.5	2	5	2	5
	31-40	11	27.5	5	12.5	1	2.5	2	5	1	2.5	2	5
	41-50	4	10	1	2.5	1	2.5	-	-	1	2.5	1	2.5
	>50	2	5	-	-	1	2.5	-	-	-	-	1	2.5
	Total	40	100	10	25	8	20	10	25	6	15	6	15
Gender	Male	22	55	6	15	6	15	1	2.5	2	5	3	7.5
	Female	18	45	6	15	2	5	8	20	4	10	2	5
	Total	40	100	12	30	8	20	9	22.5	6	15	5	12.5
Occupation	Student	6	15	1	2.5	3	7.5	1	2.5	1	2.5	-	-
	Household	18	45	5	12.5	2	5	7	17.5	2	5	2	5
	Sedentary	3	7.5	1	2.5	1	2.5	1	2.5	1	2.5	1	2.5
	Laborer	13	32.5	4	10	1	2.5	1	2.5	2	5	2	5
	Total	40	100	11	27.5	8	20	10	25	6	15	5	12.5

Table 2: Patients as per duration and frequency of pain abdomen.

Classification factor		Patients		Group A		Group B		Group C		Group D		Group E	
		No	%	No	%	No	%	No	%	No	%	No	%
Duration (months)	3-6	29	72.5	10	25	6	15	5	12.5	4	10	3	7.5
	7-12	2	5	1	2.5	-	-	1	2.5	1	2.5	1	2.5
	13-24	3	7.5	1	2.5	-	-	1	2.5	-	-	-	-
	>24	6	15	-	-	1	2.5	2	5	1	2.5	5	12.5
	Total	40	100	12	30	8	20	9	22.5	6	15	5	12.5
Frequency (days)	Daily	15	37.5	4	10	3	7.5	3	7.5	3	7.5	2	5
	2-15	19	47.5	8	20	4	10	3	7.5	3	7.5	1	2.5
	16-30	6	15	2	5	2	5	1	2.5	-	-	1	2.5
	Total	40	100	14	35	9	22.5	7	17.5	6	15	4	10

Table 3: Site and type of pain abdomen.

Classification Factor		Patients		Group A		Group B		Group C		Group D		Group E	
		No	%	No	%	No	%	No	%	No	%	No	%
Site	RIF	4	10	1	2.5	2	5	1	2.5	-	-	-	-
	Umbilical	5	12.5	-	-	2	5	2	5	1	2.5	-	-
	Epigastric	2	5	1	2.5	-	-	-	-	1	2.5	-	-
	RIF+umbilical	3	7.5	1	2.5	-	-	1	2.5	1	2.5	-	-
	Upper abdomen	8	20	2	5	1	2.5	4	10	-	-	1	2.5
	Lower abdomen	6	15	1	2.5	-	-	2	5	1	2.5	2	5
	Lumbar	5	12.5	-	-	2	5	1	2.5	2	5	-	-
	Generalized	7	17.5	-	-	4	10	2	5	1	2.5	-	-
	Total	40	100	6	15	11	27.5	13	32.5	7	17.5	3	7.5
Type	Dull aching	8	20	3	7.5	2	5	1	2.5	1	2.5	1	2.5
	Colicky	18	45	5	12.5	6	15	3	7.5	2	5	2	5
	Variable	11	27.5	3	7.5	2	5	4	10	1	2.5	1	2.5
	Not specified	3	7.5	1	2.5	1	2.5	1	2.5	-	-	-	-
	Total	40	100	12	30	11	27.5	9	22.5	4	10	4	10

Table 4: Patients as per symptomatology and special investigations.

Classification Factor		No. of patients	%
Symptoms	Ch. non-specific pain	40	100
	Nausea	17	42.5
	Vomiting	13	32.5
	Constipation	9	22.5
	Loose motion	3	7.5
	Mucus/blood in stool	3	7.5
	Low grade fever	2	5
	Weight loss	5	12.5
	Gola formation	2	5
	Mild abdominal distension	1	2.5
Investigations	USG	32	80
	Upper GI endoscopy	8	20
	Colonoscopy	11	27.5
	Ba. meal/follow through	17	42.5
	Ba. enema	6	15
	Lab investigations	6	15

Table 5: Exploratory laparotomy findings.

Group	No. of patients	Findings	No. of patients	%
A	11	Appendicular disease		
		Ch. appendicitis	8	20
		Appendicular faecolith	3	7.5
B	7	Koch's abdomen		
		Mesentric node tuber	2	5
		Stricture	3	7.5
		Miliary tubercles	2	5
C	8	Adhesion and bands		
		Omental adhesions	4	7.5
		Intestinal adhesions	3	5
D	7	Bands	1	2.5
		Miscellaneous		
		Nonspecific mesenteric adenitis	3	7.5
		Nonspecific inflammatory intestinal stricture	2	5
		Cirrhosis	1	2.5
E	7	Ovarian cyst	1	2.5
		No findings	7	17.5

Table 6: HPE findings.

HPE tissue	No. of specimen	Report	No. of patients	%
Appendix	16	Normal	5	12.5
		Ch. appendicitis	11	27.5
		Tubercular	4	10
Small gut piece	6	Nonspecific inflammation	1	2.5
		Ischemic colitis	1	2.5
Mesenteric nodes	7	Tubercular	2	5
		Nonspecific inflammation	5	12.5
Tubercles	3	Tubercular	3	7.5
Ovarian cyst	1	Hemorrhagic cyst	1	2.5

Female outnumbered male and the ratio was 1.22:1, most of the male found suffered from appendicular and tubercular pathology, whereas female from adhesions and bands and appendicular pathology. Negative exploration was more in male than female i.e. 7.5% and 5% respectively. Majority of patients were household workers followed by laborer in all the groups, similarly negative exploration was also high in this group. Appendicular and adhesions and bands were found maximum (30%) in household patients. 72.5% of patients in all groups were found having pain abdomen of less than 6 months duration. Pain abdomen on right half of abdomen was more as compared to left half of abdomen. Pain due to appendicular disease was present in RIF or RIF and umbilical region (Table 3). Patients of Koch's abdomen mainly complained of generalized pain abdomen. Patients of adhesions and bands usually complained of pain in the upper abdomen in this study. Patients having lower abdominal pain usually show negative exploration findings.

Table 7: Post-operative complications, symptomatic response at discharge and role of diagnostic laparotomy.

Classification factor	No. of patients	%	
Complications	Wound infection	8	20
	Persistent nausea >10days	3	7.5
	Persistent vomiting >10days	2	5
	Uneventful recovery	37	92.5
Condition at Discharge	Complete relief	32	80
	Partial relief	4	10
	No relief	4	10
Role	Diagnostic and therapeutic both	32	80
	Diagnostic but not therapeutic	5	12.5
	Not diagnostic but therapeutic	3	7.5



Figure 1: Tubercular stricture terminal ileum.

Most of the patients in all groups mainly complained of colicky pain followed by variable type of pain. Most of the patients having negative laparotomy findings mainly complained of colicky pain. 37.5% patients suffer daily attack of pain and in 47.5% cases pain occur between 2-15 days interval. 5% patients having negative findings on laparotomy feels daily attack of pain abdomen. 20% of patients having appendicular pathology complaining of pain at least once in 2-15 days and 10% shows daily attack of pain abdomen. Most of the patients suffering from CNSPA complained of nausea, vomiting, constipation and 12.5% of patients also complained of weight loss. Patients underwent special investigations based on symptomatology. Patients having negative findings were included in this study. On exploratory laparotomy 27.5% of patient diagnosed as having appendicular pathology, 17.5% having Koch's abdomen, 20% adhesions and bands, 12.5% miscellaneous findings, cirrhosis 2.5%, ovarian cyst 2.5% and 17.5% with no findings.



Figure 2: Bands and adhesions.

Out of 40 patients underwent laparotomy, in 16 patients appendectomy was performed and specimen send for

HPE. In 11 patients report was chronic appendicitis, whereas 5 patients had normal appendix which was incidentally removed. 9 patients had tubercular pathology.



Figure 3: Tubercular abdomen (tuberculosis gut and mesentery).

In 8 patients apart from minor wound infection uneventful recovery was 37%. Complete relief at the time of discharge was observed in 80% patients, 4 had partial and 4 had no relief. These figures observed so far, do not leave any question mark over the usefulness of exploratory laparotomy in patients of CNSPA. Which is further authenticated by the fact that in 80% patients it is of both diagnostic and therapeutic value. In 12.5% it is only of diagnostic value. 7.5% patients not benefitted at all but after 6 months on follow up these patients also had no pain.

DISCUSSION

There is a considerable number of patients of CNSPA attending surgical OPD. There are no definite guide lines about its management having been laid down by text books or leading journals. This compelled us to go into the depth of the problem. The character, site, intensity and frequency of pain varies so much in younger from older patients, male from female and one occupation to another, which baffles the treating surgeon. The psychological aspects of this problem have been discussed widely by many authors to the extent that Woodhouse et al have discussed this problem with a question mark whether pain abdomen is a surgical or a psychiatric problem.⁹ In 8 out of 40 patients under study he found surgical problems only in three patients. Therefore, we decided that to include one more criterion in our study, without this major causative factor, justice cannot be made. The most affected age in appendicular and tubercular pathology (first four decades of life) followed by adhesions and bands were exactly the same as described by text books study of world literature.^{1,2,4,10-14} Present study also shows that females have always

outnumbered the males.^{2,3,4,10,14} Paradoxically in this series abdominal tuberculosis and appendicular pathology was more common in males, cause of which remain unexplained. Persons who remain busy mentally and psychologically during work hours were comparatively found free from this problem.⁹ On contrary females mainly do household work having high incidence. The school going children were affected more by Koch's abdomen as compared to elderly.^{1,7} The Koch's abdomen and appendicular pathology patients present within one year of first appearance of pain so these patients warrants surgery earlier.^{2,10,12,13} Surprisingly patients having adhesions and bands present mainly after the second year of life, means that they can tolerate the disease for quite a long time.^{2,14} Patients of appendicular pathology and Koch's abdomen mainly complained of pain in right half of abdomen, while in centre of abdomen in adhesions/bands/stricture of small gut and complained of colicky pain and is also a most common variety of pain abdomen.^{3,4,14} It was also observed that patients having psychological aspects usually describe more specifically and accurately the character of pain.⁹ Relevance of exploratory laparotomy was proved by the fact that at the time of discharge 80% of patients had complete relief from pain abdomen.^{1,2,4,7,8,15} It proves that if the psychiatric aspect has been ruled out exploratory laparotomy is must in all cases of CNSPA, thus it is not only an important investigation but also has great therapeutic value.

CONCLUSION

The CNSPA constitute a large number of OPD and IPD patients bulk. The research work of this problem is still in infancy. Its presentation is varied and need a definite set of criteria to select cases for study. Koch's abdomen and appendicular disease in first four decades of life. Females outnumbered males and busy persons suffer less. Shorter the duration of symptoms more were the chances of appendicular and Koch's pathology. Whereas longer the duration more were the chances of adhesions and bands. Females are most common sufferer especially who are having history of chronic PID and usually complaining of lower abdominal pain constitute a majority in negative exploration. Right half of the abdomen is a common site of pain predominantly colicky. Slight variation from normal look of appendix should be taken as abnormal unless proved otherwise by histopathology. Omental adhesions with uterine adnexa in post tubectomy cases is major problem. Psychiatric aspect must be ruled out beyond doubt before exploration. Mortality and morbidity of exploration is negligible. In nut shell exploratory laparotomy was diagnostic and therapeutic in more than 80% patients.

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