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ILEOCAECAL TUBERCULOSIS;

EVALUATION OF MANAGEMENT STRATEGIES IN PATIENTS

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ABSTRACT… Objectives: To evaluate the management strategies of patients with ileocaecal tuberculosis. **Study Design:** Cross sectional multi-institutional study. **Period:** One year. **Setting:** Liaquat University Hospital Hyderabad / Jamshoro and Peoples University Hospital Nawabshah. **Patients and Methods:** All the patients of ≥11 years of age, either gender diagnosed as ileocaecal tuberculosis were recruited, enrolled and evaluate for management strategies. The data was analyzed in SPSS 16 and the frequency and percentage was calculated. **Results:** During one year study period total 85 patients were identified and diagnosed as ileocaecal tuberculosis. The mean age ±SD for whole population was 39.72±7.73 while it was 37.87±8.83 and 40.88±8.52 in male and female population whereas the mean ± SD for duration of symptoms of whole study population was 5.52±1.61 months respectively. Sixty nine (81%) patients managed surgical while 16 (19%) managed conservatively. The non specific symptoms i.e. fever, pain and tender abdomen, loss of weight and appetite was observed while 70% subjects had Hb% was <10 gms and 80% of individuals had ESR > 40 mm/1st hour whereas common radiological impression observed were narrowing of terminal ileum, pulled up caecum and obtuse ileocaecal angle. **Conclusion:** Ileocaecal tuberculosis management includes conservatives and surgical, the surgical options are ileocaecal resection, right hemicolectomies and stricturoplasty.

Key words: Ileocaecal tuberculosis, Tuberculosis, Ileocaecal resection, Right hemicolectomies and Mass in right iliac fossa.

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INTRODUCTION

Tuberculosis (TB) is a infectious disease due to bacteria Mycobacterium Tuberculosis and commonly involve the lungs but other parts of the body can be affected.[1] General management includes improvement in nutrition, vitamins and mineral supplementation while the antituberculous chemotherapy is the most important measure in the eradication of infection.[2] The five medications, i.e. rifampicin, isoniazid, ethambutol, pyrazinamide and streptomycin are considered in the initial treatment phase of TB.[3] The long term regimen includes duration of nine months and consists of starting phase of two months contains rifampicin (empty stomach single dose), isoniazid daily in a single dose, streptomycin given parenterally (single dose) or ethambutol and then there is a continuation phase of seven months contains contain isoniazid and rifampicin while the pyridoxine should be added in the regimen to avoid peripheral neuropathy.[4] There is another possible course to shorten the duration of regimen by utilizing 2 or more "bactericidal" agents. The possibility of the bacteriological relapse and emergence of drug resistance is negligible. The duration of the treatment consist of six months. The initial phase for two months contains rifampicin + INH + streptomycin or ethambutol and four months continuation phase contains INH + Rifampicin.[5] The classical surgical treatment of ileocaecal tuberculosis in patients presented with or without obstruction is resection of growth and end to end anastomosis of ileum and ascending colon or transverse colon. If the general condition is not satisfactory then ileo transverse colostomy followed by formal resection later on.[6] Ileo-transverse colostomy leaves behind segment of

blind loop and should be avoided if possible in the tuberculosis treatment. Right hemicolectomy was suggested as a standard procedure formerly and involves removal of the small intestine eight inches proximal to the ileo caecal junction upto the point where proximal third of transverse colon meets the middle third part.[7] If the disease is advance and malignant suspicious cannot be ruled out right hemicolectomy is advocated. Presently conservative resection extends up to 2 inches on either side of the growth is advocated.[8]

Therefore, the present study was conducted at tertiary care teaching hospital of Hyderabad / Jamshoro, the study manipulate interventional approach for patients with ileocaecal tuberculosis because early evaluation and management can save the patients to acquire advance complications of the disease.

PATIENTS AND METHODS

This cross sectional multi-institutional study of one year was conducted on subjects with diagnosed as ileocaecal tuberculosis and admitted in department of surgery at Liaquat university hospital Hyderabad / Jamshoro and Peoples University Hospital Nawabshah. The detail history was taken, and relevant clinical examination was performed, all the relevant individuals were investigation properly in a specific manner. The gynecologist and physicians opinions were also taken to reach the final evidence based diagnosed and management strategies. The informed consent was taken from every individual to participate in the study and the data was collected on pre-designed proforma. The subjects with mass in right iliac fossa due to other causes like appendicular mass /abscess, CA caecum, psoas abscess and inflammatory bowl diseases were considered in exclusion criteria. All the maneuvers were performed by the consultation and contribution of whole research team and regarding ethical justification all the financial burden was bear by the collaboration of whole research team. The data was saved, entered and analyzed in SPSS version 16. The stratification was done for management strategies in relation to age and gender and the p-value manipulated by applying the chi-square test at 95% CI on categorical variables with p-value ≤ 0.05 as level of significance.

RESULTS

During one year study period total 85 patients were identified and diagnosed as ileocaecal tuberculosis. The mean age $\pm$SD for whole population was 39.72 ± 7.73 while it was 37.87 ± 8.83 and 40.88 ± 8.52 in male and female population whereas the mean $\pm$ SD for duration of symptoms of whole study population was 5.52 ± 1.61 months respectively. The non specific symptoms i.e. fever, pain and tender abdomen, loss of weight and appetite was observed while 70% subjects had Hb% was <10 grams/dl and 80% of individuals had ESR >40 mm /1st hour whereas common radiological impression observed were narrowing of terminal ileum, pulled up caecum and obtuse ileocaecal angle. The results of the study are presented in Table I-VI.

DISCUSSION

GI tuberculosis represents a common diagnostic and therapeutic issue to a surgeon in most of the developing countries. In present study 20 (24%) of subjects with ileocaecal tuberculosis had associated lung tuberculosis and eighty percent of subjects belonged to rural areas.

According to Prakash A, et al[10] highest prevalence was found in age group 30-40 years. While according to Reto Valiente L, et al[11] 2/3rd of subjects were in third and forth decades with male gender predominance while in present study majority of the individual were30-40 years of age with male predominance. Tuberculous enteritis is common at ileocaecal region in a study conducted by Atm Prakash34 and also study done by Reto Valiente L, et al followed by ileum as the next common site.[11]

In present study all subjects had involvement of caecum associated involvement of ileum in some cases and the non specific symptoms i.e. fever, pain and tender abdomen, loss of weight and appetite was also observed.

		Gender		Total	
		Male	Female		P-value
AGE	11-19	10	4	14	<0.01*
		21.7%	10.3%	16.5%	
	20-29	13	4	17	
		28.3%	10.3%	20.0%	
	30-39	4	22	26	
		8.7%	56.4%	30.6%	
	40-49	9	4	13	
		19.6%	10.3%	15.3%	
	50-59	7	3	10	
		15.2%	7.7%	11.8%	
	60 +	3	2	5	
		6.5%	5.1%	5.9%	
Total		46	39	85	
		100.0%	100.0%	100.0%	

Table-I. The Age and Gender Distribution
*Statistically significant

		Treatment		Total	
		Medical	Surgery		P-value
AGE	11-19	1	13	14	0.04*
		6.2%	18.8%	16.5%	
	20-29	2	15	17	
		12.5%	21.7%	20.0%	
	30-39	8	18	26	
		50.0%	26.1%	30.6%	
	40-49	3	10	13	
		18.8%	14.5%	15.3%	
	50-59	1	9	10	
		6.2%	13.0%	11.8%	
	60 +	1	4	5	
		6.2%	5.8%	5.9%	
Total		16	69	85	
		100.0%	100.0%	100.0%	

Table-II. The Distribution of Age and Treatment
*statistically significant

		Duration (months)			Total	
		1-3	4-6	>6		P-value
AGE	11-19	7	4	3	14	0.05*
		25.0%	12.5%	12.0%	16.5%	
	20-29	8	2	7	17	
		28.6%	6.2%	28.0%	20.0%	
	30-39	10	9	7	26	
		35.7%	28.1%	28.0%	30.6%	
	40-49	1	8	4	13	
		3.6%	25.0%	16.0%	15.3%	
	50-59	1	7	2	10	
		3.6%	21.9%	8.0%	11.8%	
	60 +	1	2	2	5	
		3.6%	6.2%	8.0%	5.9%	
Total		28	32	25	85	
		100.0%	100.0%	100.0%	100.0%	

Table-III. The Distribution of Age and Disease Duration
*Statistically significant

		Treatment		Total	P-value
		Medical	Surgery		
GENDER	Male	9	37	46	0.84*
		56.2%	53.6%	54.1%	
	Female	7	32	39	
		43.8%	46.4%	45.9%	
Total		16	69	85	
		100.0%	100.0%	100.0%	

Table-IV. The distribution of gender and treatment
*Statistically non-significant

		Duration			Total	P-value
		1-3 months	4-6 months	>6 months		
GENDER	Male	18	13	15	46	0.05*
		64.3%	40.6%	60.0%	54.1%	
	Female	10	19	10	39	
		35.7%	59.4%	40.0%	45.9%	
Total		28	32	25	85	
		100.0%	100.0%	100.0%	100.0%	

Table-V. The distribution of gender and disease duration
*Statistically significant

		Duration (months)			Total	P-value
		1-3	4-6	>6		
TREATMENT	Medical	7	6	3	16	0.05*
		25.0%	18.8%	12.0%	18.8%	
	Surgery	21	26	22	69	
		75.0%	81.2%	88.0%	81.2%	
Total		28	32	25	85	
		100.0%	100.0%	100.0%	100.0%	

Table-IV. The distribution of treatment and disease duration
*Statistically significant

According to Prakash A et al,[10] abdominal pain is the commonest symptom may be colicky in nature, but often vague related to umbilicus and right iliac fossa.

In current study, all patients complained of pain in right iliac fossa and had associated low grade fever with evening rise and loss of weight and appetite. Tenderness was present in 65% subjects and 70% individual presented with mass. According to Reto Valiente L, et al[11] abdominal distension detected a common feature caused by lesion in ileum or ileocaecal region. According to Reto Valiente L, et al[11] 60% of chronic patients of ileocaecal tuberculosis presented as mass in the right iliac fossa due to hyperplastic ileocaecal tuberculosis or lymphadenitis and may simulate either appendix mass, Crohn's disease or a malignant lesion of caecum or ascending colon. In a study patients by Prakash A, et al right iliac fossa mass was identified in almost 50% of patients.[10] According to Prakash A, et al 27% cases had duration of symptoms less than 6 months and 44% subjects had duration from 6 months to 01 year and remaining more than a year.[10] According to Prakash, et al[10] > 50% cases had Hb% < 10 gms and ESR > 30 mm/1st hour was noted in > 50% cases. While in present study 70% subjects had Hb% was < 10 gms and 80% of individuals had ESR > 40 mm/1st hour. According to Nakano H, et al[12] and Sharma MP, et al[12] in ileocaecal tuberculosis there are characteristic radiological impressions on barium enema like caecum is pulled up, ascending colon shortens, and ileum

retains its normal caliber, the observations are consistent with the present study.

In our study 69 (81%) individuals were underwent definitive surgery, followed by placed on antituberculous therapy and well response and clinical improvement was observed. According to Lee MJ, et al[13] who conducted study of pattern of surgical emergencies of tuberculous abdomen, performed right hemicolectomy in 4.5% of cases limited resections in 6% cases and stricturoplasties in 36% cases. In present study of 85 patients of the ileocaecal tuberculosis limited ileocaecal resection was perfomed in 59% cases and right hemicolectomies in another 41% cases because of extensive associated involvement of ascending colon while in five subjects there was an associated stricture and stricturoplasty was performed. According to Tarcoveanu E, et al procedure of ileocaecal resection is ideal, takes less time, can be performed in patients with peritonitis and does not require extensive mobilization of colon resulting in less or minimal risk of damage other structure.[14]

Therefore, ileocaecal resection is quick, safe, effective and appropriate surgery for benign granulomatous lesions of intestine and is superior to conventional surgical technique of right hemicolectomy.

CONCLUSION

It has been observed that ileocaecal tuberculosis presented as the non specific symptoms i.e. fever, pain and tender abdomen, loss of weight and appetite was observed while majority of the patients were 30-39 years of age with male population predominance. Sixty nine (81%) had surgical intervention while 16 (19%) were managed conservatively; the surgical options are ileocaecal resection, right hemicolectomies and stricturoplasty.

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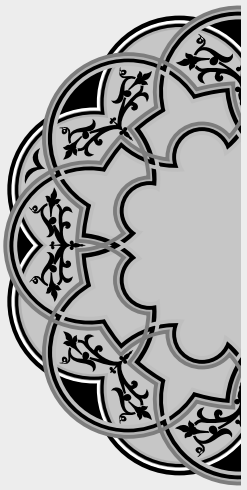

"There is nothing either good or bad, but thinking makes it so."

William Shakespeare

AUTHORSHIP AND CONTRIBUTION DECLARATION

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1	Dr. Ahmed Hussain	Contributions to conception and design, acquisition of data, analysis and interpretation of data.	
2	Dr. Naeem ul Karim Bhatti	Drafting the article and shares its expert research opinion and experiences in finalzing the manuscript.	
3	Dr. Syed Kashif Ali Shah	Contributed in conception and interpretation of data and give his expert view for manuscript designing.	
4	Dr. Zaheer Ahmed	Analysis and interpretation of data Contributed in conception and shares its expert research opinion.	
5	Dr. Hamid Nawaz Ali Memon	Drafting interpreting and analyzing the data.	
6	Dr. Syed Zulfiquar Ali Shah	Drafting and data collection and analysis / manupulate the data and drafting.	