CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
http://doi.org/10.5281/zenodo.2637679

Available online at: http://www.iajps.com Research Article

EFFECTIVENESS OF STRICTUROPLASTY AGAINST THE STRICTURES OF SMALL INTESTINAL TUBERCULOSIS

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Article Received: February 2019 **Accepted:** March 2019 **Published:** April 2019

Abstract:

Objective: *The objective of this study is to evaluate the effectiveness of the stricturoplasty for the patients suffering from the strictures of small intestinal tuberculosis.*

Methodology: *This retroactive descriptive research work carried out in Department of Surgery, DHQ Hospital Faisalabad. The duration of this research work was from January 2014 to December 2018. Total 60 patients with the tuberculosis of small intestine who faced the surgical procedure of stricturoplasty were the part of this research work. The application of the method carried out according to conventional way in all the patients, in 70.0% patients the closing of the intestine carried out in 2 layers and in the rest of patients the closing of the intestine carried out in single layer.*

Results: *We found initial complications in twenty three patients as anastomotic leakage with the formation of the fistula in 15.0% (n: 9) patients, abdomen burst in 8.340% (n: 5) patients & sub diaphragmatic abscess in 15.0% (n: 9) patients. The delayed complications were under observations after the average follow-up of complete 2 years include obstruction of the intestine that made the readmission of the patient necessary in 15.0% (n: 9) patients, though the exploration of the infected was the requirement again in only 5 patients. There was a confirm presence of incisional hernia in 15% (n: 9) patients.*

Conclusion: *The complications after the application of surgical method of stricturoplasty are very frequent but this procedure is very simple and secure for the strictures of the small intestinal tuberculosis because it requires no skillfulness, less duration of surgery & preserve the length of the gut.*

KEY WORDS: *Stricturoplasty, small intestine, anastomotic, conventional, complication, surgery, methodology, tuberculosis, diaphragmatic.*

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Please cite this article in press Sabeen Adil and Faiqa Aslam., ***Effectiveness Of Stricturoplasty Against The Strictures Of Small Intestinal Tuberculosis.,*** *Indo Am. J. P. Sci, 2019; 06(04).*

INTRODUCTION:

The tuberculosis of the intestine may available differently, however appearance as the stricture & resultant obstruction of the intestine are very common in our regions [1-3] where unawareness, poorness, over population and malnutrition are well prevalent. Once attained, this problem initiates as transverse ulcers inside the area of small intestine most frequently ileum or as hypertrophic abrasion that established as mass weight at the region of the ileocecal [4, 5]. As the development of the stricture rise, it causes the narrowness of the lumen which causes the obstruction of the intestine which is normally acute but sometimes it is sub-acute. The chronic obstruction finds as rare common and it leads to the syndrome of the malabsorption [7].

Laparotomy has become very vital for the hindrance & perforation or the operation is the requirement for the chronic abdomen.

A number of different methods are available to tackle the strictures but the secure and simple method among those procedures is stricturoplasty [8]. This method also provides the benefit to handle the many abrasions at the same time without scarifying the segments of the intestine [9]. It is very effectual for the patients of ill health. The diseases which has the inherited propensity to reappear as tuberculosis, prevention of resection & saving the maximum part of the small intestine is the priority. Stricturoplasty is time tested method to handle or manage the strictures of the intestines [10]. Like any method of intestines, stricturoplasty has the danger of the failure of suture line and reappearance of these strictures that directives periodic assessment for the procedure to evaluate the effectiveness of this matter. This research study evaluated the results of the stricturoplasty in our regions. In 1977, Kataryal from India [11] reported the surgery of stricturoplasty for the very first time.

METHODOLOGY:

We analyzed the record of the patients who underwent laparotomy in last 5 years. We discovered that in 73 patient's laparotomy carried out for the obstruction of the intestines because of strictures of tuberculosis. But the record of histopathology was present for only sixty patients. So, the exclusion of 13 patients carried out because of incomplete data. The record of the related information from sixty patients maintained on a special designed Performa. All the patients underwent laboratory assessments as complete count of the blood, urine test, serum electrolytes & X-ray of abdomen and chest. All the patients faced laparotomy under anesthesia in the department of emergency.

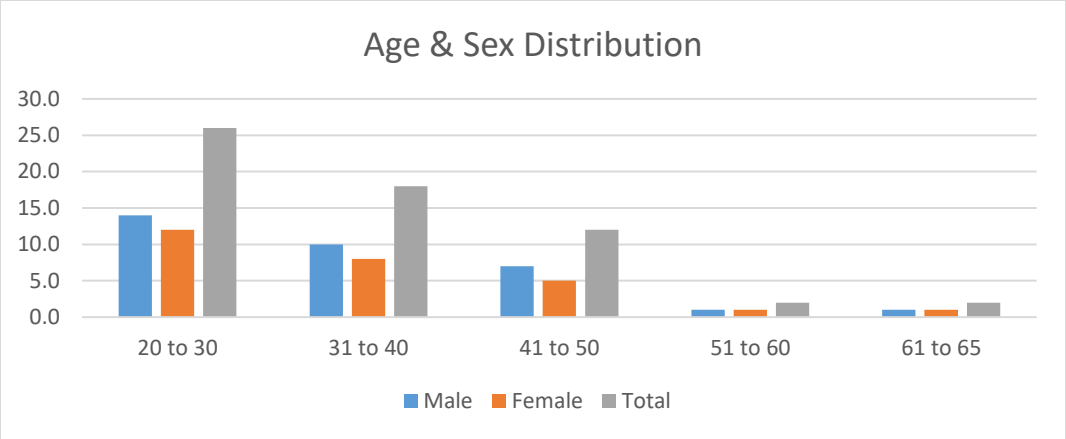
The opening of intestine carried out from 5-6 centimeter along the border of anti-mesenteric and in the middle point with the stricture in stricturoplasty. 2 layer or 1 layer technique was in use for the closure. Polyglactin 910 along with vicryl plus were in utilization by all patients. In all the patients, biopsies were the part of the nodes off the mesenteric lymph & strictures. Antibiotics after the surgery continued from 7 to 10 days. We followed all the patients after surgery once in a week for complete 3 months then on monthly basis for a period of complete sixteen months. SPSS V.10 was in use for the analysis of collected information.

RESULTS:

The age of sixty patients was from 20 to 65 years with an average age of 30 years. Male patients outnumbered the female patients. We discovered the highest occurrence of the disease in the 3rd decade of the life as displayed in Table-1.

Table-I: Age and Sex distribution. (n=60)

Age Group (in years)	Male	Female	Total
20 to 30	14.0	12.0	26.0
31 to 40	10.0	8.0	18.0
41 to 50	7.0	5.0	12.0
51 to 60	1.0	1.0	2.0
61 to 65	1.0	1.0	2.0

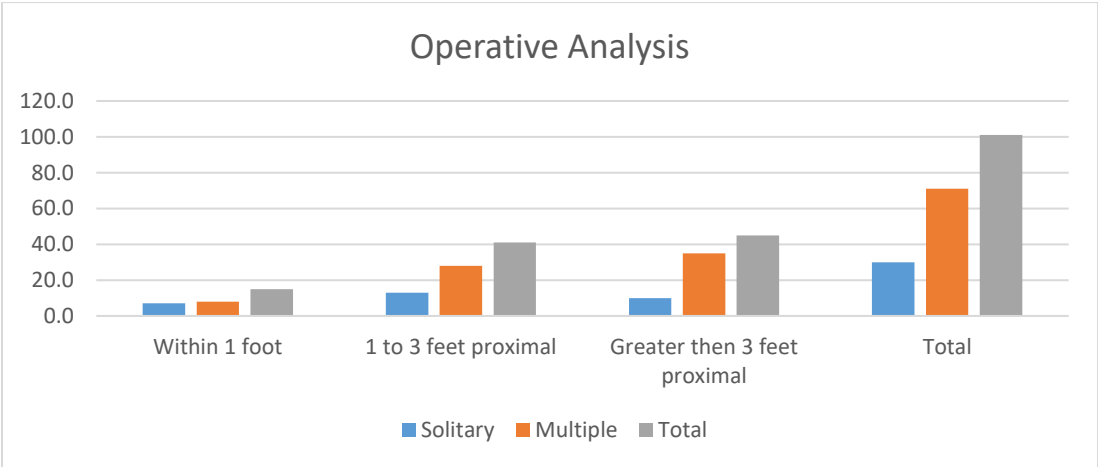


All the participants were from lower social and economic class. The family past history of tuberculosis was available in 60.0% patients. Sub-acute obstruction of the intestine was present in 17 patients while acute obstruction of the intestine was present in 33 patients and perforation of intestine was available in 10 patients. In thirty patients, we found greater than 1 stricture and we performed 101 stricturoplasties in 60 patients as displayed in Table-2. All the patients took antibiotics from 7 to 10 days.

The early after surgery complications were available in 23 patients. Anastomotic discharge with the formation of fistula happened in 15.0% (n: 9) patients, burst abdomen in 8.34% (n: 5) patients, Sub diaphragmatic abscess found in 15.0% (n: 90 patients. the re-exploration in 3 patients of anastomatic leakage & 2 patients of burst abdomen performed and they performed well after the second surgery. Follow up of all the patients carried out for complete two years and late complications appeared in some patients. Total 9 patients have to face the obstruction of intestine, re-exploration carried out in only 5 patients. We found the 9 patients suffering from incisional hernia.

Table-II: Operative Findings

Distance from Ileocecal junction 'l Stricture'	Solitary	Multiple	Total
Within 1 foot	7.0	8.0	15.0
1 to 3 feet proximal	13.0	28.0	41.0
Greater than 3 feet proximal	10.0	35.0	45.0
Total	30.0	71.0	101.0



DISCUSSION:

Tuberculosis is a very frequent reason of the strictures in small intestine in our regions [9, 10]. Some other reasons of the strictures in the small intestine are Crohn's disease [12], irradiation [13], use of drugs [14] & mesenteric vasculopathy [15] but these rare in our regions [16]. As the occurrence of the tuberculosis is very low & mostly present in immigrants [17], the international research from the modern countries is scanty when considered in comparison with the Crohn's disease [12]. In the developing countries, the tuberculosis of the intestines is responsible for 2 million casualties every year [18] & it is the main reason of the obstruction of intestine between 15-70 year of age [19, 20]. The tuberculosis of the abdomen normally affects the adult people [21] & with its highest occurrence in 20-30 year of age [22]. This finding is consistent with the outcome of this research work where 70.0% patients were from 15 to 30 year of age. This infection is dominant in the females [23], while other research work have displayed that males were dominating the females [24]. In opposition to some other research works [24] that has displayed the high occurrence of tuberculosis of abdomen in females, in our research work, males were in greater quantity as compared to the females [25,26].

The outcomes of this study displayed that effect of this disease on females is less in comparison with the males. The medically detection of the tuberculosis of the intestine is very hard [13, 27] & in most of the patients, only the laparotomy has the ability to confirm the diagnosis of this disease [28-30] that give the opportunity for biopsies of tissues. We biopsied the wall of the intestine, Kapoor & Ahmed followed the same procedure [13]. Ulcerative, hypertrophic & sclerosing fibro strictures were three forms of the abrasions of intestine [31, 32]. Tubercular strictures are the main reason for the obstruction of the small intestines due to contraction of the cicatrical [33]. In majority of patients, the inaction treatment is either resection and / or enteroanastomosis [34]; these both procedures are for the benign diseases.

The technique of stricturoplasty can be in practice in the patients suffering from tubercular enteritis [35]. In most of the patients suffering from the tuberculosis of the abdomen cavity, the involvement of the ileum was present. We discovered that all ileum strictures or in 85.0% patients, the strictures were available 1 feet proximal to the junction of the ileoceacal. Anand & colleagues described the relief from the obstructive abrasions with the anti-tuberculosis medicines [36].

CONCLUSION:

The method of stricturoplasty is very secure, simple, timesaving & easy for the strictures of small bowel because of tuberculosis. It has the preference when there is involvement of the long gut segment.

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