



A STUDY ON SOCIODEMOGRAPHIC PROFILE OF PATIENTS OF INTESTINAL OBSTRUCTION IN DR. SUSHEELA TIWARI GOVERNMENT HOSPITAL, HALDWANI

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ABSTRACT

Background/Aim: This study was aimed to provide a sociodemographic profile of intestinal obstruction in a tertiary care hospital in Kumaun region of Uttarakhand, India.

Materials and Methods: This was a cross-sectional study of patients admitted in our hospital with a diagnosis of intestinal obstruction between the years 2019 and 2020 at Dr. Susheela Tiwari Government Hospital, Haldwani, Uttarakhand. The study comprised of 250 patients.

Results: The commonest age group affected was 18-30 years. In our patients, the main cause of obstruction was adhesions followed by abdominal tuberculosis with MALIGNANCY coming third. Conservative management was advocated in 72 patients while the rest underwent surgery.

Conclusion: Adhesion was the main etiology in Intestinal Obstruction. The odds of malignant bowel obstruction are increasing in the proportion of Intestinal Obstruction. There were some differences towards the etiologic spectrum compared with western countries.

KEYWORDS : Etiology, intestinal obstruction, demography

INTRODUCTION

Bowel obstruction is defined as any mechanical and functional obstruction of the small or large bowel which prevents intestinal contents from passing through the intestine.^[1,2] Bowel obstruction comprises more than 3% of surgical emergencies,^[3-6] and is one of the major causes of morbidity and financial resources usage.^[7] It also causes significant surgical side effects in hospital admissions and adversely affects the life of millions of people, cutting across all age groups, with considerable direct and indirect economic impacts on the healthcare system and the affected patients.^[8] There are four cardinal features of IO: colicky abdominal pain, distension, vomiting, and constipation. The presentation of these symptoms is affected by the site and type of obstruction. ^[9,10] Based on the anatomical location, IO is mainly classified as small bowel obstruction (SBO) and large bowel obstruction (LBO);^[11] it can also be either mechanical or functional on the basis of the underlying pathophysiology of obstruction.^[12] Mechanical IO forms an important part of pathologies that necessitate emergency surgical interventions in parts of Asia, including India, Iran and Pakistan. ^[9] With certain exceptions, mechanical IO can generally be relieved through conservative treatments like nasogastric tube insertion, intravenous antibiotics or intravenous fluid resuscitation; unrelieved IO necessitates further exploration. Previous studies revealed that repeat IO will recur in about 12% of patients after primary conservative treatment, and in between 8-32% of patients after operative management for adhesive bowel obstruction. ^[8] Supine and upright abdominal x-rays should be taken and are usually adequate to diagnose obstruction. Although only laparotomy can definitively diagnose strangulation, careful serial clinical examination may provide early warning. Elevated WBCs and acidosis may indicate that strangulation has already occurred, but these signs may be absent if the venous outflow from the strangulated loop of bowel is decreased. ^[8-10] The present study was done with the aim of establishing the socio-demographic profile of the patients with intestinal obstruction and their outcome in Dr. Susheela Tiwari Government hospital, Haldwani.

AIM & OBJECTIVES

To highlight the cause of Intestinal Obstruction in tertiary care center of Dr. Susheela Tiwari Government hospital, haldwani.

MATERIAL & METHODS

- **Study design:** A cross-sectional study.
- **Place of study:** Dr. Susheela Tiwari Government Hospital Haldwani.
- **Sample size:** All the confirmed cases of Intestinal Obstruction in study period.
- **Period of study:** 20 months, January 2019- Sept 2020

INCLUSION CRITERIA:

All confirmed cases of intestinal obstruction based on clinical and radiological investigations admitted in Susheela Tiwari Government Hospital, Haldwani in the study period were included.

EXCLUSION CRITERIA:

Patients not willing to be a part of the study.

PROTOCOL FOR CASE SELECTION

All confirmed cases of Intestinal Obstruction in 20 months of study period based on clinical and radiological findings, as follows:

- Characteristic abdominal pain of intestinal obstruction, vomiting, distension and constipation.
- Thorough history taking and clinical examination of each patient carried out as per the prepared Performa.
- X ray chest and abdomen, USG whole abdomen, Contrast Enhanced Computed Tomography of the whole abdomen.
- Complete blood count, renal function test, liver function test, electrolytes (Na⁺, K⁺, Ca⁺⁺ and total Calcium levels), ABG, coagulation profile, serum amylase, serum lipase, C reactive protein levels.
- Changes consistent with intestinal obstruction on cross sectional imaging.

OBSERVATIONS AND RESULTS

Table 1: Distribution of study population according to age groups and gender

Age groups	Male	Female	Total
18-30 years	54	37	91
	36%	37%	36.4%
31-40 years	15	7	22
	10%	7%	8.8%
41-50 years	18	5	23
	12%	5%	9.2%
51-60 years	23	19	42
	15.3%	19.0%	16.8%
61-70 years	18	13	31
	12%	13%	12.4%
71-80 years	19	17	36
	12.6%	17%	14.4%
>80 year	3	2	5
	2%	2%	2%
Total	150	100	250

Table 2: District wise distribution among study population.

District	No. of patients	Percentage
Almora	30	12%
Bageshwar	40	16%
Champawat	42	16.8%
Nainital	52	20.8%
Pithoragarh	36	14.4%
Udham Singh Nagar	50	20%
TOTAL	250	100%

Table 3: Distribution of study population according to Etiological factors

Etiological factors	Frequency	Percent
Adhesions	78	31.2%
Bands	4	1.6%
Gangrenous Obstructed Hernia	3	1.2%
Intussusception	22	8.8%
Malignancy	58	23.2%
(Non-Gangrenous) obstructed hernia	10	4.0%
Tuberculosis	69	27.6%
Volvulus	6	2.4%
Total	250	100.0%

Table 4: Distribution of study population according to Management

Treatment	Frequency	Percent
Conservative	72	28.8%
Operative	178	71.2%
Total	250	100.0%

Table 5: Operative procedures performed among study subjects

	Frequency	Percent
Adhesiolysis	33	18.5%
Defunctioning Colostomy	7	3.9%
Extended Right Hemicolectomy with Ileoscending Colonic Anastomosis	6	3.3%
Hernia Repair	5	2.8%
Ileostomy	28	15.7%
Left Hemicolectomy with End Colostomy	5	2.8%
Resection and Anastomosis	64	35.9%
Right Hemicolectomy	22	12.3%
Sigmoid Colectomy with Hartmann's Procedure	8	4.4%
Total	178	100.0

Table 6: Complications listed among study population

	Frequency	Percent
Wound infection	44	24.7%
Wound dehiscence	19	10.7%
Anastomotic leak	26	14.6%

Bleeding	7	3.9%
Intra-abdominal collections	29	16.3%
Stoma complications	13	7.3%
Respiratory complications	58	32.6%
Renal complication	48	27.0%
Sepsis	39	21.9%
Shock	42	23.6%
Malnutrition	18	10.1%

Table 7: Outcome among study population

Outcome	Frequency	Percent
Recovered	230	92.0%
Expired	20	8.0%

Table 8: Duration of hospital stay

	Minimum	Maximum	Mean	Std. Deviation
Hospital stay (days)	5	23	11	4.68

DISCUSSION

Intestinal Obstruction is among the most common surgical emergencies being encountered frequently in emergency department. [6] The study population consisted of total 250 patients which included 150 males (60%) and 100 females (40%). Patient's age ranged from 18-89 years with the mean age of 46.18 years ± 20.53. Majority cases belonged to 18-30 years' age group consisting of 91 (36.4%) cases out of which 54 were males (36% of total male study population) and 37 females (37% of total female study population).

52 patients (20.8%) were from Nainital district followed by 50 (20%) from Udham Singh Nagar. 104 (41.6%) presented after 72 hours from the onset of symptoms, 69 (27.6%) of cases presented after 24-48 hours of onset of symptoms among which abdominal pain was the most common presenting symptom followed by vomiting and abdominal distention. Most of the cases were due to adhesions (31.2%) followed by tuberculosis among (27.6%). Among all the age groups most of the cases were from 18-30-year age group among whom malignancy, tuberculosis and adhesions respectively were found to be the most common etiological factors. 151 (60.4%) cases had incomplete obstruction whereas 99 (39.6%) cases evaluated as a case of complete obstruction. 171 cases of small intestine obstruction commonly encountered cases were, 70 cases (40.9%) of adhesions, followed by 43 (25.1%) cases of tuberculosis and 31 (18.1%) cases of malignancy. Whereas out of 79 cases of Large bowel obstruction most common were 27 (34.1%) cases of malignancy and 26 (32.9%) cases of tuberculosis.

Conservative treatment was done for 72 cases (28.8%) and Operative treatment in 178 (71.2%) cases. In current study among 178 operated cases, resection and anastomosis (35.9%) was the most commonly performed procedure followed by adhesiolysis (18.5%). 78 cases had adhesions of which 29 (37.1%) were managed conservatively while 49 (62.8%) were managed with operative procedure, while remaining 28 were managed operatively. 32.6% patients developed respiratory complication followed by renal complication (27%) while from 178 operated cases 24.7% of them developed post-operative wound infection. Recovery rate with 92% whereas mortality was reported in 8% of the cases. The average duration of hospital stay was 11±4.68 days with a range of 5-23 days.

CONCLUSION

In conclusion, the results of this sociodemographic study demonstrate that in the Kumaon region of Uttarakhand intestinal obstruction is more common in young population mainly from Nainital and Udham Singh Nagar district. Males are more commonly affected than females. Most of the patients present with symptoms of abdominal pain and

abdominal distention were the most appreciated signs on examination with most had incomplete degree of intestinal obstruction. On evaluation, small bowel obstruction is more common than the large bowel obstruction. Among all the etiologies adhesions, tuberculosis and malignancy being overall leading cause of the bowel obstruction. Operative interventions are the main stay of the management. Resection and anastomosis, adhesiolysis and stoma formation are the commonly performed operative procedures. The most commonly encountered postoperative complications were wound infection and intra-abdominal collections. Overall, most of the patients recover well and discharge after one and half week of hospital stay. Wound management should also be improved as post-operative wound infections are the most common postoperative complication in the area.

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