Incidence and Management of Strangulated Inguinal Hernia

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This is a retrospective study of forty patients, admitted in Mayo Hospital, Emergency with a diagnosis of strangulated inguinal hernia from 1-6-1997 to 31-12-1998. This study aims at collection of facts and figures about incidence, age/sex presentation, mode of presentation, duration of strangulation, treatment offered operative and post operative complications, and any concomitant illness of the patient. The study revealed that 90% of the affected patients were male and 60% of them fall in the 51-70 years age group. Postural treatment remained effective in 70% of the patients, who presented in Emergency with history of less than 24 hours. In 70% of cases, level of constriction was at the neck of sac and in 80% of cases, small gut and omentum was found to be a content of sac. Partial omentectomy and resection with end to end anastomosis of small gut was performed most of the times.
Key words: Strangulated inguinal hernia, incidence., obstructed inguinal hernia, inguinal hernia

Inguinal hernia is defined as a protrusion of a part of the contents of the abdomen through the inguinal region of abdominal wall[2]. A strangulated hernia is that in which the blood supply to the contained part has been impeded or cut off[1]. Strangulated inguinal hernia was the commonest cause of intestinal obstruction for centuries. The mortality of strangulated inguinal hernias has remained unchanged for the past 50 centuries despite advances in anaesthesia, surgical technique and development of antibiotics. Patients in third world continue to have severe morbidity and mortality from strangulation as trend towards early surgery of asymptomatic hernias is very low[1]. Throughout the third world, strangulated hernias remain a very common cause of intestinal obstruction[3]. This incidence has only been reduced in countries which have organized a comprehensive health care system[3].

Inguinal hernias are the most common forms of spontaneous hernias. these are much more common in males than in females[4]. The true incidence is difficult to establish but range from 5-15 per 1000 population. Roughly, 5% of all patients having an operation for external hernias are explored as an emergency[3].Some other studies however indicate that upto 20% of hernias may first present with strangulation[1,4]. In the case of strangulated inguinal hernias, the male sex predominates. According to two reports, the ratio of incidence is 6:1[5] and 10:1[1]. Although strangulation of external hernias is seen throughout life, if more commonly presents at extremes of life, the average age of patient being close to sixty five years[6].Some series report that incidence rises after sixty years of age, the mean age between 70-76 years[5].

Age has a clear relationship withmortality[6]. Deaths attributable to strangulated hernias have not diminished as much as might be expected, considering all the advances made in patient care. Before 1931, when there were no antibiotics and anaesthesia was pre-mature, the mortality rate among 1300 patients treated in Britain was 13%[7].In a study carried out in 1970-1977 on one hundred and sixty five patients, a mortality of 9.7% was noticed[5]. Similarly a study in 1974-1979, carried out on one hundred and ninety five patients documented mortalit7y of 11%[6].In large series, the overall mortality regardless of the state of trapped contents varies between 15-25%[1]. Hence it is surprising to find that the complication of strangulation till has an appreciable mortality in the modern era, and in some parts of the world is still one of the commonest surgical emergencies, excluding trauma[8].

The likelihood of this complication is not known. In a study of 430 inguinal hernias, there were 22 strangulations. After three months, the cumulative probability of strangulation for inguinal hernias was found to be 2.5%, rising to 4.5% after two years. The rate at which cumulative probability of strangulation increased was greatest in first three months[9].

Study design

This was a retrospective study and was conducted in West/South Surgical Emergency, Mayo Hospital, Lahore. Duration of study was from 1 June 1997 to 31 December 1998.

Material and methods

This study was conducted on 40 patients, admitted with a clinical diagnosis of strangulated hernia. This included all the male and female patients over the age of 12 years.

Management plan

Admission
Routine management
Postural treatment
Operative treatment

a) Admission: All the patient with clinical diagnosis of strangulated hernia, were admitted. Appropriate Performa duly filled.

Type of treatment offered
- Postural treatment
- Operative treatment
- Delayed

Morbidity and mortality

b) Routine management: Initial management was as follows

- Maintenance of intravenous line and fluid resuscitation
- Urethral catheterization
- Nasogastric decompression
- Antibiotic coverage for both aerobic and aerobic organisms.
- Adequate pain relief

C) Postural treatment: Although not the primary form of treatment, trial of postural relief for strangulation should not be forgotten in adults while preparations are being made for operation. It essentially consists of elevating foot end of bed and adequate analgesia to the patient.

Some studies have put much tress on postural treatment, considering that gangrenous bowel is less likely to be seen if duration of strangulation does not exceed twenty four hours[10].

Some studies desire a very high success rate of postural treatment. Bowman in 1951 achieved a reduction rate of 72% after four hours of the start of postural treatment, while Bekoe achieved a success rate of 70% in 108 patients studied[10].

In this study, a trial of postural treatment will be given if duration in less than 24 hours.

d) Operative Treatment: Studies favoring a preliminary trial of a postural treatment describe four to six hours of such treatment to be sufficient in most cases[10] Operative treatment was undertaken in every patient on whom postural treatment failed, or who deteriorated clinically or patient considered to be primarily unsuitable for postural treatment i.e. old patient with advanced obstruction, shock et

Results

Table 1.Age distribution

Age of operation	n=	%age
12-20	01	2%
21-30	01	2%
31-40	02	4%
41-50	05	10%
51-60	15	30%
61-70	15	30%
71-80	10	20%
81-90	01	2%

Table 3. Clinical features

Clinical findings	%age
Pain	95%
Swelling (lump)	98%
Irreducibility	95%
Redness	95%
Abdominal pain	25%
Vomiting	70%
Constipation	50%
Distension	50%
Tense/ tender lump	60%
Cough impulse (Negative)	75%
Abdominal guarding	50%
Bowel sounds	50%
Signs of shock	40%
Associated disease e.g. diabetes ,hypertension etc.	70%

Table 4. Postural treatment for 6 hours

Duration after onset o symptoms	n=	Success rate in %age
24 hours	20	70%
24 hours	30	20%
Total	50	

Table 5. Operative findings

Level of constriction	%age
Neck of sac	70%
External ring	20%
Adhesion within ac	10%
Any other	Ni.
Contents	
Viable	60%
Non viable	40
Small gut / omentum	80%
Large gut	10%
Bladder	2%
Appendix	2%
Meckels	2%
Ovary	1%
Any other	1%

Table 6. Post operative complications

Complications	%age
Septicaemia	15%
Chest complications	20%
Wound complications	15%
Associated diseases	10%
UTI	5%
DVT	10%
Iatrogenic	5%
Other	2%

Conclusion

From the above results, we conclude that strangulated hernia occurs more in male in old age group. Those, who invariably, have to undergo operation and the morbidity and mortality of operation is directly related to age of patient, duration of presentation type of operation and presence of any concomitant disease.

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