A CASE OF TRAUMATIC PERFORATION OF THE INTESTINE ASSOCIATED WITH INGUINAL HERNIA

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While the literature abounds with reports of ruptured bowel due to closed abdominal trauma, few cases are recorded of intestinal rupture caused by hyperextension or torsion of the trunk. There are still fewer reports of intestinal rupture due to muscular strain associated with inguinal hernia.

CASE REPORT

Mr. B.J.M., aged 28 years, was admitted to the professorial surgical unit of the Johannesburg General Hospital on 13 October 1957 at 4.30 a.m. complaining of severe abdominal pain. He stated he had drunk a large quantity of beer on the previous afternoon and evening and, while 'wrestling' with a friend at about 11.30 p.m., suddenly twisted his body to the left and immediately experienced a severe 'stitch' in his right side. This pain soon spread over his whole abdomen, particularly the lower part. The patient was quite positive that he had not received a direct blow to the abdomen. He also stated that, at the time of experiencing his 'stitch', his right inguinal hernia had suddenly become painful and increased in size. This hernia had been present for the past 3 years and had remained in his groin as a constant lump which he had never attempted to reduce. The rest of the history was non-contributory except for an appendicectomy performed in 1951.

The patient was a well-built adult male in obvious pain. The temperature was normal, the pulse rate 96 per minute and the blood pressure 120/75 mm. Hg. Except for the abdomen, the general examination was negative. The abdomen did not move on respiration and exhibited board-like rigidity down the right side. The left side was extremely tender and rebound tenderness was present. Auscultation revealed no bowel sounds and an old right 'gridiron' appendicectomy scar was noted. The left inguinal region was normal but the right side contained a large inguino-scrotal hernia with no cough impulse. The swelling was tense and exquisitely tender and no attempt was made to reduce it.

A presumptive diagnosis was made of incarcerated or strangulated right inguinal hernia with ruptured intra-abdominal viscus or possible partial reduction *en masse* of the hernia.

Operation

Under general anaesthesia, a right inguinal incision was made and, on division of the external oblique aponeurosis, a tense, inguino-scrotal sac was delivered and isolated. The sac contained turbid greenish fluid suggestive of small-bowel contents and a large piece of greater omentum attached by firm adhesions to the fundus of the sac. There was no bowel in the sac and the neck was found to barely admit the tip of the little finger beside the protruding omentum. The redundant omentum was excised and the proximal piece was ligated and returned into the abdomen. The sac was ligated and the excess amputated. A Bassini repair with catgut was performed and the wound closed around a glove-rubber drain.

The abdomen was then opened through a right lower paramedian incision. The peritoneal cavity contained fluid identical to that found in the hernial sac and about 200 c.c. was sucked out. On examination of the bowel, a small perforation of the ileum, 15 cm. from the ileo-caecal junction on the anti-mesenteric border, was discovered. The perforation was round, the edges punched out, and there was no sign of surrounding bruising or reaction of any kind. The perforation was closed with two layers of chromic catgut sutures. Further exploration revealed an absent appendix. The caecum was noted to be quite mobile and the area of perforated ileum was thought to have been lying at the back of the right internal ring. The abdomen was closed with a stab drain to the recto-vesical pouch and a drain to the paramedian wound.

The patient made an uneventful recovery.

DISCUSSION

Aird[1, 2] has drawn attention to the association of traumatic perforation of the intestine and inguinal hernia. Obviously, in many cases the abdominal trauma is sufficiently severe to cause intestinal rupture without incriminating the associated hernia but, when the trauma is trivial, the presence of the hernia may be a contributory factor. It is remarkable that in most previously reported cases the rupture has occurred in the lower ileum, usually on the anti-mesenteric border and, with one exception,[1] the injured loop has been found lying in the abdominal cavity (usually near the internal inguinal ring) and not in the hernial sac. It is also interesting to note that the condition has not been observed in women, nor in association with any external hernia other than inguinal. The hernia has usually been long standing, though not necessarily irreducible, and usually right-sided.

An ingenious theory has been propounded by Bange (quoted by Aird[1]) to explain why the presence of a hernia should render the intestine more susceptible to violence of a trivial nature. He states that 'any sudden rise of intra-abdominal pressure is invariably associated with a rise in

intra-intestinal pressure. The intestine is, however, prevented from rupture in a normal individual by the equality of the pressure within the bowel and that applied uniformly to its external surface. If, however, one loop of the bowel is applied to the abdominal orifice of a hernial sac at the time of elevation of pressure, part of its wall is unsupported and may burst'.

Despite this hypothesis, perhaps the rupture can be satisfactorily explained on the basis of mere stretching of a relatively fixed segment of bowel or localized increase in intra-abdominal pressure. The occurrence of such cases, however, suggests that the hernia is of some importance in the pathogenesis although the actual mechanism is not apparent.

With regard to the management of the case reported here, the correct procedure would probably have been laparotomy only, with hernial repair at a later date. However, considering the fitness of the patient and in view of the pre-operative diagnosis, it was probably safer to have explored the hernia first despite the fact that sepsis might have militated against the repair performed.

SUMMARY

A case of perforation of the intestine associated with inguinal hernia and due to muscular strain is presented.

Theories as to the causation of this unusual occurrence are discussed.

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REFERENCES

1. Aird, I. (1950): *A Companion in Surgical Studies.* Edinburgh: Livingstone
2. *Idem* (1935): Brit. J. Surg., **24**, 529.