

Efficacy of Shouldice's Technique in Repair of Inguinal Hernia Occupied by Acutely Inflamed Appendix: A Rare Case Report with Long Term Follow-up

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ABSTRACT

One rare case of an inguinal hernia occupied by an acutely inflamed appendix is reported. It was clinically indistinguishable from a strangulated hernia. Since there were no signs of peritonitis, the exploration was done via an inguino-scrotal incision. However, a superolateral extension of the inguinal wound had to be made for a satisfactory appendectomy. After thorough debridement, the weak posterior wall of the inguinal canal was repaired employing Shouldice's technique. Extensive review of the literature revealed that this technique has not been put to trial earlier in such adverse situations where the risk of wound infection and recurrence of the hernia is high. This patient recovered without wound infection. The patient had no recurrence of the hernia during the subsequent one year follow-up.

Inguinal herniae are very rarely occupied by an acutely inflamed appendix. Review of the literature reveals that all such previous cases had either a herniotomy or a Bassini-repair for the associated herniae after appendectomy. Moreover, postoperative recovery was often marred with wound infection. Also, long term follow-up results regarding recurrence of the herniae following such procedures are largely unknown. For the first time, Shouldice's technique for the hernia repair has been tried in a patient with inguinal hernia whose content was an acutely inflamed appendix. The patient recovered without wound infection, and the hernia has not recurred during subsequent one year follow-up. A

case of inguinal hernia with acutely inflamed appendix as its content is being reported for its rarity, and for showing the efficacy of Shouldice's technique for the repair of the associated inguinal hernia in the presence of gross contamination.

THE CASE

A 26 year old male, who was on the waiting list for elective repair of a right indirect inguinal hernia, presented with a history of painful swelling of the right groin of 2 days duration. He had no other symptoms. His pulse rate was 98 per minute, and he had a low grade fever. The abdominal examination did not reveal any signs of peritonitis. Other systems were also unremarkable. However, he had a tense, tender and irreducible inguino-scrotal swelling on the right side. A normal testis could be palpated separately at the base of the scrotum. Laboratory investigations were not obtained as the same were thought to be unnecessary.

On exploration via an inguino-scrotal incision, under general anaesthesia, he was found to have an indirect inguinal hernia with the distal one-third of an acutely inflamed appendix, a part of the greater omentum and thin purulent fluid occupying the sac.

After mopping up the purulent fluid from the sac, the part of the omentum involved in the inflammatory process was excised. Then, with the help of the index finger and the thumb inserted through the deep ring, an attempt was made to

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deliver the caecum and the entire appendix into the inguinal wound. However, the manoeuvre failed. The inguinal incision was extended superolaterally and appendectomy was performed satisfactorily. The appendix, which measured 9cm in length, was acutely inflamed throughout its length. The appendicular fossa was washed with saline and drained, and the superolateral extension in the inguinal wound was repaired, using absorbable suture material, up to the deep ring. Finally, after excision of the cremasteric muscles the posterior wall of the inguinal canal was strengthened using the classical Shouldice's technique. The pathologist confirmed the diagnosis of the acute appendicitis.

Intravenous ampicillin and metrogyl, started pre-operatively, were continued postoperatively in high doses for 48 hours. The wound healed well without any infection. At one year follow-up, when the patient was last seen, there was no recurrence of the hernia.

DISCUSSION

A tense, tender and irreducible inguino-scrotal swelling is most correctly diagnosed as a strangulated hernia. Inguinal abscess, acute epididymo-orchitis, torsion of an undescended testis and acutely inflamed appendix within the sac of the inguinal hernia closely mimic a strangulated hernia. However, an acutely inflamed appendix extremely rarely occupies the sac of an inguinal hernia. It has been reported to occur at all ages including infancy.¹ A significant number of these patients turns out to have gangrene and perforation of the entangled appendix^{2,3} possibly due to delayed diagnosis.

Since the usual pre-operative diagnosis is a strangulated hernia, such patients are explored in the first instance via an inguino-scrotal incision unless signs of peritonitis dictate a laparotomy. On encountering the surprise finding of an acutely inflamed appendix within the sac of the hernia a superolateral extension of the inguinal wound is usually required in order to perform appendectomy satisfactorily, as in this case. Thorough debridement of the contents of the inguinal canal involved in the inflammatory process needs to be undertaken. In the

name of debridement, part of the omentum lying within the inguinal canal and the entire bulk of cremasters were excised in this case. Beside the use of the broad spectrum antibiotics, strict adherence to this basic principle of surgery contributed significantly to the recovery of the reported patient without wound infection, the chances of which were otherwise high⁴.

As for the repair of the hernia, Bassini's technique has been promoted to be dependable even in the presence of gross contamination². However, long term follow-up results regarding recurrences of the herniae are largely unknown. Moreover, Shouldice's technique of hernia repair has never been put to such trial. Since I routinely repair the inguinal herniae by Shouldice's technique, and hence being well familiar with it, the hernial defect in this patient was repaired using the classical Shouldice's technique. During a subsequent one year follow-up the hernia had not recurred. Although one case is not adequate enough to test the dependability of any technique of hernia repair, its significant contribution towards the same cannot be denied for large series of similar cases are hard to come by.

CONCLUSION

Based on this report, further trials of Shouldice's technique in the presence of gross contamination, due to causes such as encountered in this patient, are recommended to evaluate its dependability, in terms of recurrence of hernia.

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