Interstitial incisional hernia following open appendectomy: Case report

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ABSTRACT

Open appendectomy is a common surgical procedure but post-appendectomy incisional hernia is uncommon, the actual incidence is probably less than 1%. The common contents of such hernias are small bowel and omentum. Primary repair of this type of hernia has a high failure rate and effective repair can be achieved by using synthetic mesh. We report a case of interstitial incisional hernia in a 70-year-old female who was presented to the hospital. She had a bulge in the the right lower quadrant of the abdomen since last 8 years. The hernia was successfully repaired by tension-free sutured prolene mesh. The follow up showed that there were no signs of reoccurrence.

Keywords: *Incisional hernia, Open appendectomy, Open mesh repair.*

An incisional hernia in the abdominal wall represents a breakdown or loss of continuity of a fascial closure [1]. Hoguet and Watson called attention to the occurrence of post-operative hernia at the McBurney scar and attributed this to a weak abdominal wall due to injury to the ilioinguinal and iliohypogastric nerves [2]. Two types of such hernias occur: in one, the hernia passes through all the layers of the abdominal wall. Less common is the other type in which the hernia passes through the transversus and internal oblique muscles but not through the external oblique aponeurosis (Interstitial type) [3]. The incidence varies from 0.12 to 0.7 [4, 5] and perhaps the greatest risk factor is post-operative wound infection [6]. Here, we report a case of 70-year old women who was presented with a bulge in the right lower quadrant of the abdomen.

CASE REPORT

A 70-year-old female was presented with a bulge in the right lower quadrant of the abdomen since 8 years. She had open appendectomy for perforated appendicitis 8 years ago. The post-operative period was complicated by surgical site infection and was managed conservatively. The bulge was small initially and symptomless and more visible on standing and straining. Less than one year ago, the bulge became visible even when lying down and pain developed with strenuous activity. There were no gastrointestinal symptoms.

On physical examination, the lady looked normal. Her vital signs were; temperature: 36.5 ◦C, pulse rate: 80 beats per minute, respiratory rate: 24 cycles per minute, blood pressure: 140/90 mmHg, weight: 85kg. She had a wide well-healed gridiron scar with a diffuse swelling under the scar [Fig. 1]. The bulge increased in size with straining, cough impulse was present and is not completely reduced even with manual pressure. Other systems were essentially normal.

A diagnosis of post appendectomy incisional hernia was made and the patient was counseled, investigated and booked for surgery. Results of investigations were; hemoglobin: 11 g/dl, total white cell count: 4,500 cells/mm^3, 226,000 cells/mm^3, chest x-ray [PA] and electrocardiogram had normal findings while transabdominal ultrasound showed diffuse body wall mass suggesting hernia.

Figure 1: Voluminous right lower abdominal swelling with wide oblique scar at McBurney area.

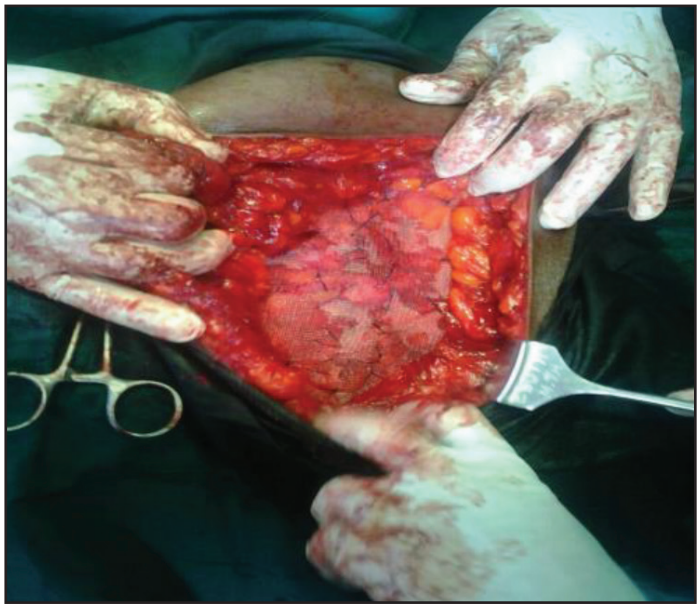

Figure 2: Sutured prolene mesh in place on the internal oblique muscle

Figure 3: Vacuum-assisted drainage of the wound [Redivac type]

Under spinal anesthesia and prophylactic antibiotics with ceftriaxone 1gram at the induction of anesthesia, the bulge was explored through the scar. It revealed a distended but intact external oblique aponeurosis, attenuated internal oblique fibres which revealed the hernia sac containing bowel and a 6cm diameter defect. The sac was dissected from between the external and internal oblique muscles and reduced. The internal oblique muscle was closed loosely with vicryl and a 15 × 15cm mesh sutured with interrupted nylon on it [Fig. 2]. The external oblique was sutured over the mesh with nylon. The wound was drained with a closed drain [Fig. 3]. The post-operative course was without events and she was discharged on the 3rd post-operative day. She was seen at 2 weeks (for removal of sutures), 6 weeks, 6 months and at 12 months and there was no clinical recurrence and she was happy with the result.

DISCUSSION

Despite our awareness of many causative factors and improvements in surgical techniques, incisional hernias formation remains a significant problem in abdominal surgery [6, 7]. Incisional hernia after open appendectomy through a gridiron muscle-splitting incision is usually the result of significant post-operative wound infection following advanced appendicitis [6, 8-10]. Other common causes include suturing the internal oblique and transversus muscles tightly to strangulate it or placing a drain through the wound [3, 9].

When a hernia occurs, it can pass through all layers of the abdominal wall muscles (commoner type) or through only the internal oblique and transversus (interstitial) muscles [4, 11]. In the early stages, the interstitial type can cause diagnostic problems and require ultrasound or computed tomography scan for definitive diagnosis [11-13]. Repair of huge post-appendectomy incisional hernia should ideally be undertaken with current standard tension-free prosthetic techniques to avoid recurrence [9, 14]. This can be placed open or laparoscopically between the peritoneum and the transversus muscle (pre-peritoneal) or between the internal oblique and the external oblique muscle (Sandwich technique). We used the later technique to treat our patient.

In this case, the older age of the patient made wound healing slower and less solid. Her appendicitis was perforated probably due to delay in the presentation which led to significant wound infection. Her incisional hernia was of the rarer interstitial type which probably may have delayed diagnosis when it was small. We used prophylactic antibiotics and the sandwich technique of mesh placement to decrease the risk of infection and fistula formation.

CONCLUSION

Open appendectomy is not a minor surgical procedure, as some may think, and can cause serious morbidity and occasional mortality. Due care must be exercised during the first surgery to prevent a second surgery.

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