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Single stitch Open interval appendectomy; when and why

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ABSTRACT

Appendicitis is a very common cause of acute abdomen. Most of the patient admit in surgical emergency. Diagnosis usually made clinically, sonography sometimes may be helpful. Regarding management there is still controversy exists. Developed country usually performed laparoscopy appendectomy while in developing country surgical management is still in debate. Different surgeons have different opinion either emergency open or laparoscopy appendectomy or interval appendectomy. Even in open appendectomy there is still debate between classical procedure vs small incision. This study favors single stitch surgery rather than classical and laparoscopy appendectomy. this case study supports even better cosmetic and outcome than laparoscopy appendectomy.

Keywords: single stitch, interval appendectomy, classical, laparoscopic

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Introduction

Appendectomy was first described by McBurney in 1894 [1], but nowadays minimal invasive surgery is being performed regularly and because of it gaining popularity, first laparoscopic approach for acute appendicitis was performed in 1983 [2]. Initially it was difficult to adopt laparoscopic appendicectomy (LA) because of learning difficult and also high cost. But now laparoscopy appendectomy has become very common approach in the management of acute appendicitis over classical grid iron incision because of reduced postoperative hospital stay, early return to work and better cosmetic effect [3]. However, some literature also doesn't favour laparoscopy appendectomy because of increased operative time and hospital costs [4]. Unlike laparoscopic cholecystectomy, LA has not gained much popularity since its introduction [10]. therefore, in our hospital single stitch open interval appendectomy is being performed regularly with reduced time low cost better cosmetic effect. now dilemma is that when and why it should be operated and which case is suitable for single stitch open appendectomy. Initially, it was very clear message that if a case of acute appendicitis had come within 72 hours then performed emergency appendectomy either open or laparoscopy, if after 72 hours then manage conservatively first then after 4-8 weeks planned for interval appendectomy either laparoscopy or open. Now most of the appendectomy is being performed at any time beyond protocol just for monetary benefit and therefore increasing postoperative morbidity, putting drain in abdomen, long hospital stays, large scar, high cost due to higher antibiotics. Now we are performing interval appendectomy via single stitch small incision. In spite of these advantages, there is controversy over the best model of appendectomy technique in the literature [11]. appendectomy is still most common procedure adopted in cases of appendicitis especially in rural areas, for lack of available skill and equipment [12].

Case study

A young age girl came in opd with complaining of pain in right side of abdomen, mild in nature, not associated with any fever and vomiting. patients also complain there was a severe pain about 4 weeks back at same place and she was diagnosed as a case of appendicitis. Patient was advised for laparoscopy appendectomy but did not get operated same time due poor economic strata.

Patient wished for laparoscopy appendectomy due to less scar but same time denied due to high cost. All investigations were normal and ultrasonography was suggestive of appendicitis.

Then patient was explained about single stitch appendectomy. patient accepted and inform consent were taken from the patient and attendant both.

Method

Single stitch small incision [<2 cm]: an imaginary line is drawn from anterior superior iliac spine up to umbilicus and mark the McBurney's point between lateral one third and medial two third. After marking Mc Burney's point, a small horizontal incision about less than 2 cm (Fig.1) is cut and extent from McBurney's point to lateral side. Anterior rectus sheath is cut vertically in line of the skin incision and rectus muscle retracted with the help of Czerny's/Langenbeck retractors. then, Peritoneum is cut in the line of skin incision and lift the peritoneum pass the retractors in abdomen and inspect area around appendix. Then palpate the appendix or caecum if not able to palpate then identify the taeniae on colon and move anteriorly to reach the caecum and base of appendix. Sometimes it required little manipulation to trace appendix. tip of appendix holds by Babcock's forceps gently and lift up appendix. Identify mesoappendix and base of appendix then create a hole between these and ligate the mesoappendix via silk 2-0 suture. Now appendix is clamped at two places one at base of appendix other just above the first clamp then cut mesoappendix along with appendiceal tissue. haemostasis secured and

no need to put drain insitu. No need to burry appendicular stump, peritoneum layer closed via catgut 3-0 suture. Muscle get retracted itself, anterior rectus sheath closed via vicryl 2-0 suture. Only single stitch was applied to close Skin via nylon 2-0 suture.

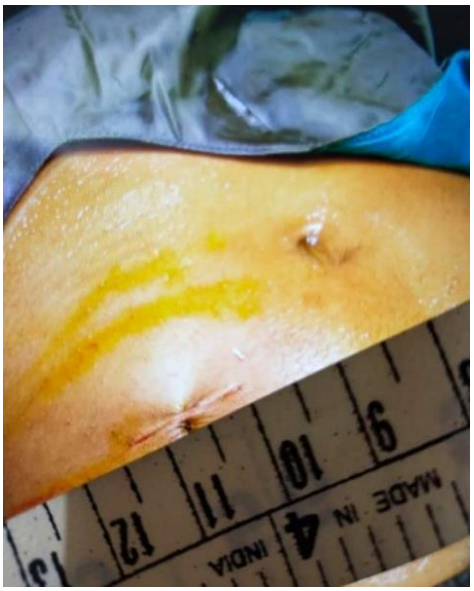

Fig.1

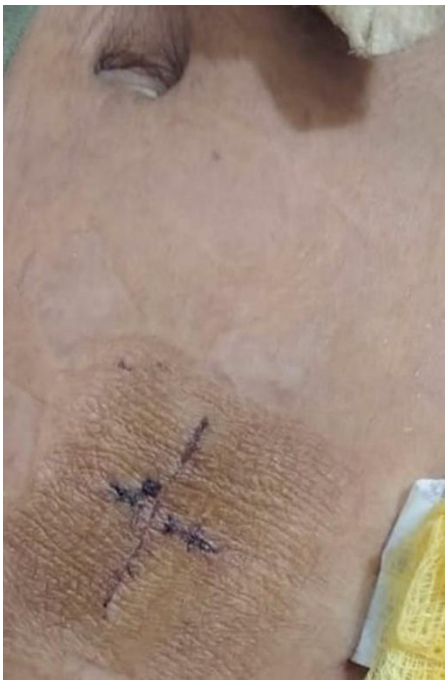

Fig.2

Discussion

Classical grid iron incision and now laparoscopy appendectomy is done regularly for the management of appendicitis. Previous study has shown that laparoscopy appendectomy is better than open appendectomy in view of short hospital stay, better cosmetic, less scar, but in this case, we performed open interval appendectomy via small incision about 2 cm and single stitch were applied and comparatively less scar even at single place rather than three port site sutures in laparoscopic appendectomy (Fig 2).

From first case of appendectomy till date much more evolution has been developed. The first appendectomy was done incidentally by

Claudius Amyand in 1736 while Kronlein in 1886 published the first report of appendectomy [5]. And since then variety of incision has been discovered. just 30 year back first laparoscopy appendectomy was performed by semm'. After then even people are trying to do and prefer open appendectomy via small incision rather than laparoscopy appendectomy

Single stitch open interval appendectomy can be performed by any general surgeon and no new equipment is required. Only technical difficulty me be there for new surgeons. Small incision appendectomy has the benefit of a single wound scar compared to the three wounds (15 mm, 15/7 mm, 7 mm) scars of laparoscopic appendectomy with less cost. Learning to carry out single stitch procedure is easy, as it is performed under direct vision. Patients will benefit from less requirement for analgesics, early ambulation, shorter hospital stay and better cosmesis. Parents can resume their normal work early. Laparoscopic surgery is beneficial when the diagnosis is in doubt and in obese patients [6]. Sauerland S et al, comparing laparoscopic appendectomy (LA) Vs open appendectomy (OA) and observed that the operative time and cost in LA is significantly higher [7]. There is around 30% increase in the cost with laparoscopic surgery compared to open procedures [8]. laparoscopic appendectomy may be useful in obese patient [9]. Because there are no differences in surgical outcomes between the two groups, OA is considered the better option due to lower cost [13]

Single stitch open interval appendectomy has advantage that the procedure can be performed under spinal anaesthesia, with less operative time and is cost effective compared to laparoscopic appendectomy. Single stitch incision open interval appendectomy performed by the above-mentioned technique is a better technique compared to classical open appendicectomy. This procedure needs further evaluations with respect to its comparisons with classical and laparoscopy appendectomy. The present study support that any case if beyond 72 hours first manage conservatively then planned for interval appendectomy via single stitch rather than laparoscopy or classical open appendectomy. Because, after conservative treatment appendicular lump, appendicular abscess or perforation disease usually get resolve after 4 weeks.

Conclusions

Our experience of doing regularly classical open appendectomy, laparoscopic appendectomy and single stitch open appendectomy reveals that the single stitch open interval appendectomy procedures are comparable in terms of analgesics use, hospital stay, return to routines and satisfaction with the scar, because laparoscopic appendectomy takes significantly more operating time than conventional and single stitch appendectomy and scars at three port sites. We suggest that in low resource situations grid iron incision can be replaced by single stitch appendectomy in case of interval appendectomy. Patients with acute appendicitis beyond 72 hours must be manged conservatively first then planned for interval appendectomy via single stitch 0pen appendectomy. but if there is perforated appendix then emergency classical open appendectomy done immediately

at any time. appendicular abscess and appendicular lump may not be fit for emergency single stitch open appendectomy, but definitely we can use single stitch open appendectomy once these symptoms have been resolved after 4-8 weeks. Therefore, our case study suggest that single stitch open interval appendectomy may be a better option than classical or laparoscopic appendectomy.

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