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Short Commentary Open Access

Stump Appendicitis: An Overview

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Short Commentary

Acute appendicitis is one of the most common conditions treated in the emergency room all over the world. And it has come a long way from the first described it to present, where a number of studies are reported in the topic.

Claudius Amyandin 1735 is credited with performing the first Appendectomy whilein 1886 Reginald Fitz first described the clinical features and pathologic abnormalities of appendicitis. And in 1945, Rose was the first to describe stump appendicitis in patients who had already undergone an appendectomy for appendicitis [1]. The lifetime risk of appendicitis is 8.6% for males and 6.7% for females with a slight male predominance [2].

Several scoring systems have been developed to help clinicians in the diagnosis of acute appendicitis. The best-known scores are the Alvarado score, the modified Alvarado score, the Pediatric Appendicitis Score, the Appendicitis Inflammatory Response score and the RIPASA score, and there are other less known scoring systems like Tzanakis scoring system, Lintula score, Ohmann score and RAMA-AS among others [3]. However the Alvarado scoring is the simplest among them and easy to apply at even the basic of medical centers.

The use of imaging had aided and improved the diagnostic capability of Acute Appendicitis with the addition of ultrasonography and CT scan with the sensitivity and specificity of US to be 44% and 93%, respectively; they found the sensitivity and specificity for CT to be 97% and 94%, respectively [4]. A vital reason for ultrasound to have a lower sensitivity of appendicitis is a fact that ultrasound imaging is operator dependent while having its own drawbacks among others.

Now as we enter the new era where minimal invasive surgery is advancing rapidly and everyone taking to it, therefore we have two options for repair- open and laparoscopically with each having their own pros and cons. Laparoscopic approach carries the benefit of less post-operative pain, early recovery, shorter hospitalization period, faster return to normal activities and better cosmesis; however the need for general anesthesia, laparoscopic instruments, technical support and skilled personnel has prevented it to be done liberally when compared to open approach.

Although there are numerous complications postoperatively both in open and laparoscopically, here I would like to stress on Stump Appendicitis. Stump appendicitis is defined as the interval repeated inflammation of remaining residual appendiceal tissue after an appendectomy [5]. After appendectomy, if a part of the appendix is left behind or when it is incompletely removed for whatsoever reason then it can become a nidus for further infection and inflammation in the future leading to stump appendicitis.

It would seem that stump appendicitis would be more common after laparoscopic appendectomy but to everyone's surprise it is the other way around, with more percentage of cases being reported after open appendectomy. The literature states that 66% of the reported cases occurred after open appendectomies [6] which could have multiple explanations including a majority of appendectomies is operated by open method, not all stump appendectomy cases are diagnosed or reported, laparoscopic surgery is usually done by more experienced surgeons so they are being more careful to name a few. Usually stump appendicitis is difficult to diagnose as a prior history of appendectomy throws off the clinician to look for other causes and causes a dilemma. However stump appendicitis can diagnosed by imaging- ultrasound and more importantly CT scan. So, diagnosis of a case of stump appendicitis needs a strong level of suspicion by the clinician, as what the mind doesn't know, the eyes cannot see. When stump appendicitis is diagnosed completion appendectomy is the treatment of stump appendicitis [7], very rarely a more extensive surgery in the form of intestinal resection or stoma creation is required to treat such patients.

However as a clinician it is necessary to avoid leaving a longer stump of the appendix for stump appendicitis to occur in the future be it during open or laparoscopic surgery. A surgeon should be able to identify the anatomy well with proper exposure of the appendix

with the cecum, terminal ileum and the converging tenia coli on cecum. As surgeons, no appendiceal stump longer than 2-4 mm should be left behind.

Whenever necessary, converting a laparoscopic procedure to open technique, extending the incision or calling for help by consulting another surgeon should not be taken as a failure but should inspire to do better. We as clinicians need to be more vigilant and we need to report all cases of stump appendicitis that we come across. It shouldn't be taken as a mistake or failure but as a teaching point and a message because this maybe just be the tip of the iceberg.

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