5mm Port Laparoscopic Appendectomy
A Summary of Clinical Experience in 12 Patients
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Abstract

Objective:
The development of a 5mm diameter stapling device has made it possible to complete laparoscopic appendectomy with a maximum port size of 5mm. This paper presents a 12 patient case series using the JustRight 5mm Stapler in laparoscopic appendectomy across a broad range of patient sizes and weights. Benefits of using only 5mm ports have been reported to be less pain, lower incidence of port-site hernia, faster return to work/activities, and improved cosmesis.

Device Description and Methods:
The JustRight 5mm stapler places 4 rows of standard B-shaped staples and cuts down the middle. The device operation is similar to other 12mm staplers on the market and the strength and leak pressures of the staple lines have been shown to be equivalent to the EndoGIA. The staple line is 25mm long. A 5mm specimen bag was used to remove the appendix.

The procedure was begun by placing a 5mm camera in the umbilicus. Two 5mm working ports were placed in the midline - longitudinal just to left of umbilicus and transverse one hands-breadth above and below umbilicus. The camera was placed in the upper port during dissection. A 5mm grasper and 5mm energy device were used to complete the dissection. The Stapler was inserted into the umbilical port in order to position it perpendicular to the appendiceal stump. The camera was then switched to the umbilical port and a 5mm retrieval bag was inserted into the upper port for extraction of the appendix. When necessary the facial incision was slightly stretched to remove the specimen from the 5mm port.

Preliminary Results:
The 5mm port technique was used on 12 adult appendicitis patients all with normal post-op course and no complications. The averages over all patients were as follows. Age was 30 years, BMI was 27, procedure time was 33 minutes and time to return to normal activity was 2.5 days. Post-op pain score was less than four on half the patients immediately post-op with an average time to pain score <4 of 20 minutes. Average time for narcotics usage was 2.5 days. Patient satisfaction was unanimously a score of 1 on a scale of 1-5 where 1 indicated extremely happy.

Conclusions:
5mm laparoscopic appendectomy is possible across a wide range of patient sizes and weights. The 25mm device length and tissue thickness capability was sufficient in all cases. Specimen removal with slight stretching of the fascia was not problematic. This technique is a viable alternative to traditional use of a 12mm stapler for laparoscopic appendectomy.