

TRANSUMBILICAL EXTRACORPOREAL LAPAROSCOPIC-ASSISTED APPENDECTOMY: THE BEST OF BOTH WORLDS?

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Aim of the Study: The perfect balance between safety, cosmesis and cost effectiveness in a world with ever growing healthcare costs has yet to be found for *non-perforated* appendicitis. The aim is to present our data regarding safety and cost effectiveness of the transumbilical extracorporeal laparoscopic-assisted appendectomy technique.

Methods: Retrospective review; all laparoscopic appendectomies for acute appendicitis; October/2014 to October/2016. All cases of perforated appendicitis were excluded (visible hole/abscess/free pus). Included cases were divided into two groups by operative technique: transumbilical (TU) or laparoscopic 3-port (L3P). Operating room charges were billed in 30-minute intervals; hospital charges billed per night in-house. *Technique:* the appendix is identified with the laparoscope, grabbed with a grasper inserted parallel to the camera and exteriorized through the umbilicus; the appendectomy is completed extracorporeally.

Main Results: A total of **494** cases of non-perforated appendicitis were included in the study. One surgeon attempted all cases with the TU technique (n=161) and all other surgeons used the L3P technique (n=333), which required an endostapler and a vascular sealing device. The TU technique was successful in 99 of the attempted cases. The mean operative time of the TU cases and the L3P cases was 21 (8-43) and 37 (12-73) minutes, respectively ($p < 0.001$). The mean hospital stay for the TU and the L3P cases was 1.6 (1-5) days (one-night admission) and 2.4 (1-14) days (2-night admission), respectively ($p < 0.001$). There were no operative complications or readmissions in either group. Total charges of the L3P cases were 25% higher than the charges of the TU cases.

Conclusion: The transumbilical extracorporeal laparoscopic-assisted technique was as safe as the laparoscopic 3-port technique, offered all the advantages of a minimally invasive procedure, was associated with a significantly shorter hospital stay, and was remarkably more cost effective than the standard laparoscopic 3-port technique.

