

PEDIATRIC LAPAROSCOPIC APPENDICECTOMY OUR EXPERIENCE IN A TRIBAL AREA.

General Surgery

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ABSTRACT

This imminent review means to assess the benefits and results of laparoscopic appendicectomy (LA) contrasted with open appendicectomy (OA) in pediatric patients with intense a ruptured appendix. The review gathered clinical and analytical information from pediatric patients determined to have intense an infected appendix and going through LA. Consideration and avoidance measures were laid out, and factual investigation was directed on different boundaries, for example, patient socioeconomics, kinds of an infected appendix, usable span, clinic stay, and inconveniences. The outcomes showed that LA was related with more limited employable terms and medical clinic stays contrasted with OA. Difficulties were negligible, with a low occurrence of cement gastrointestinal obstacle and umbilical injury disease. The review recommends that LA is a protected and powerful system for intense an infected appendix in pediatric patients, offering benefits, for example, diminished grimness, lower cost, diminished careful site contaminations, and more limited hospitalization.

KEYWORDS

Laparoscopic Appendicectomy, Acute Appendicitis, Pediatric Patients, Advantages, Outcomes, Operative Duration, Hospital Stay, Complications

INTRODUCTION

The treatment of infected appendix is unaltered since its most memorable portrayal by Charles McBurney in 1889.^[1] Appendicectomy by McBurney's entry point stayed the methodology of decision for hundred years until 1983 when Kurt Semm offered a choice, "laparoscopic appendicectomy".^[2] This planned review is held back nothing benefits of this procedure and shows it to be better over open appendicectomy. Appendicectomy for intense a ruptured appendix is the most ordinarily carried out surgery in youngsters which is embraced by pediatric and general specialists.^[3] Nine years passed between the first detailed laparoscopic appendicectomy (LA) in grown-ups by Semm in 1983 and the first revealed series of Laparoscopic appendicectomy in kids by Ure et al. in 1992.^[4] There are reports of a significant expansion in the extent of LA to the conventional Open Appendicectomies (OA) in kids throughout the past 10 years with a decline in LA related difficulties.^[5] The upsides of LA over OA in grown-ups and in kids have been accounted for in distributed series particularly regarding diminished clinic length of stay, occurrence of wound disease. In non-industrial nations like India, the pace of intense a ruptured appendix in pediatric age bunch is 25 for every 10000 kids. Our review assessed laparoscopic appendicectomy for Lessening grimness, diminishing expense, decreasing careful site diseases and complete length of stay in kids in doored in surgery Dept. Zydus Medical college Dahod, an ancestral region in Gujarat. In our emergency clinic we are a public confidential organization and the two systems laparoscopic medical procedures and open strategies are finished at liberated from cost. Appendicitis is the most common cause of acute abdomen, generally requiring urgent surgical intervention, with a lifetime incidence between 7% to 9%.^[6]

MATERIAL & METHODS

It's a prospective investigation of pediatric patients indoored in our specialization who were having clinically and radiologically demonstrated instances of intense appendicitis. all laparoscopic medical procedures were performed by an accomplished assistnat teacher who has accomplished other things than 500 laparoscopic surgeries to eliminate the specialist bias. we gathered the clinical information and examinations information like wbc count, crp count, ultrasound subtleties, ct filter in the event that fundamental in couple of patients, histology reports, all out long periods of anti-toxins given, complete length of long periods of hospitalization and post operation complexities if any prominent in the follow up opd.

Inclusion Criteria:

1. We included the patients from age group of 1 to 18 years old.
2. Patients who were diagnosed with acute appendicitis clinically and radiologically.
3. Patients whose parents or legal guardians provided informed consent for participation in the study.

4. Patients who were available for follow-up visits and data collection throughout the study period.

Exclusion Criteria:

1. patients who were outside the characterized pediatric age range.
2. Conversion to Open procedure: Reject patients whose laparoscopic methodology was changed over completely to open a medical procedure.
3. Patients who had critical comorbidities that influence the results like diabetes, cardiac conditions, respiratory problems.
4. patients whose guardians or legitimate watchmen couldn't or reluctant to give informed assent.
5. Patients who had contraindicated for pneumoperitoneum creation and enormous distension.

Pearson's chi-square and Mann-Whitney tests were utilized for measurable examination of clear cut and consistent information individually as fitting. A P esteem under 0.05 was considered significant. Negative analytic laparoscopy and typical informative supplements were prohibited from the investigation.

Half hour before medical procedure all patients were given intravenous dose of ceftriaxone as per their weight and all patients were called at ward in night preceding a medical procedure day to forestall clinic gained contaminations. Standard convention for general sedation were kept. For medical procedure standard 3 port appendicectomy were performed. All trocar utilized were of 5mm size. Blind 5mm umbilical optical port insetion was finished. Other 2 ports were embedded one in right iliac fossa and one 2 finger over the pubic symphysis separately in the wake of envisioning stomach depression under vision. (shown as below)



The pneumoperitoneum pressure was kept 12mmhg and 1-3 litre/minflow rate. After assessing the abdominal cavity for other pathologies were examined and than appendix was visualized and after that with help of bowel grasper appendix was held after dissecting it out from the adhesions and with help of mono polar cautery meso appendix was separated from the appendix and necessary hemostasis was achieved whenever needed. Mesoappendix separated till the identification of base and with help of endo loop ligatures were done 2mm distally to the base and secondligature was kept 2mm from the 1st ligature. Appendix was cut and retrieved out from pubic symphysis trochar with toothed grasper and base was flushed with saline for disinfection and wash was given with 10ml normal saline and aspirated. Omentum was kept in the appendicular stump at end of the procedure and all ports were taken out under visual guidance. Skin closure were done by ethilon 3-0. Toward the finish of the system, 0.5 % Marcaine with adrenaline was infiltrated along the port sites. All appendix removed were sent for histopathology. Postoperatively, early mobilization was done. Antibiotics were given for 24 hour for inflamed appendix and 5 days antibiotics for ruptured appendix. Patients were kept in recovery room for half hour. Post procedure all patients received ceftriaxone as antibiotic and simple analgesic was given to every single patients and kept nil by mouth for 6 hours and followed with sips and fluids. All patients were discharged on 2nd post operative days except the patients who had fever, nausea and pain. Patients were called on 5th post operative day for follow up in opd. Sutures were removed on 5th day. Patients were followed up 4 weeks postoperative.

RESULTS

Table 1: Patient Demographics

	Total Patients	Male Patients	Female Patients
Count	78	41	37
Percentage	100%	52.6%	47.4%

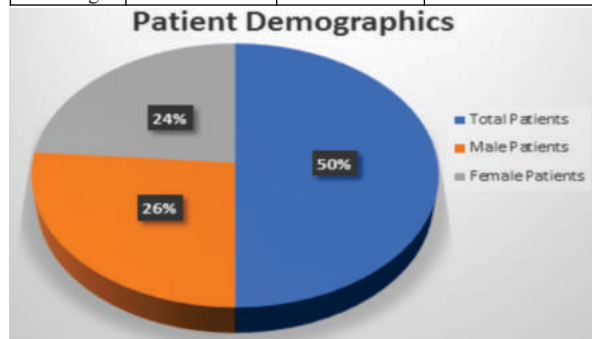


Table 2: Types of Appendicitis

	Count	Percentage
Acute Appendicitis (AA)	12	15.4%
Appendicular Abscess (ASA)	25	32.1%
Appendicular Peritonitis and Appendicular Abscess (APA)	29	37.2%
Normal appendix with other conditions	4	5.1%
Additional procedures (LATUM)	4	5.1%

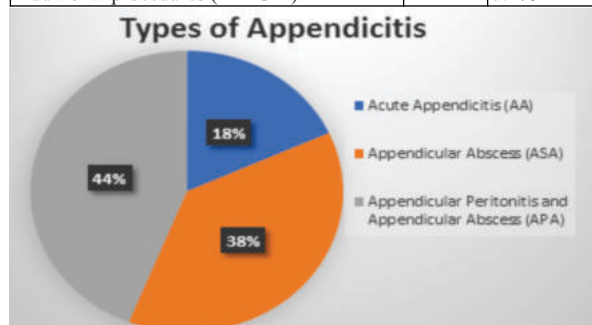


Table 3: Operative Duration

	Mean Duration (minutes)	Standard Deviation
Acute Appendicitis (AA)	38	12
Appendicular Abscess (ASA)	48	16.2
Appendicular Peritonitis and Appendicular Abscess (APA)	74.5	20.8

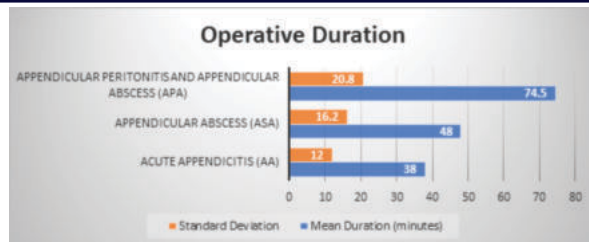


Table 4: Hospital Stay

Intra operative findings	Mean Stay (days)	Standard Deviation
Acute Appendicitis (AA)	2.1	0.9
Appendicular Abscess (ASA)	3.7	1.2
Appendicular Peritonitis and Appendicular Abscess (APA)	5.6	2.3

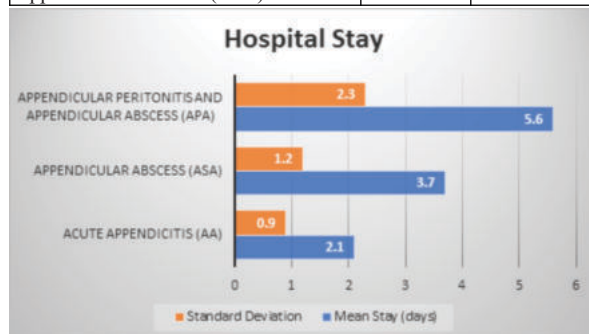
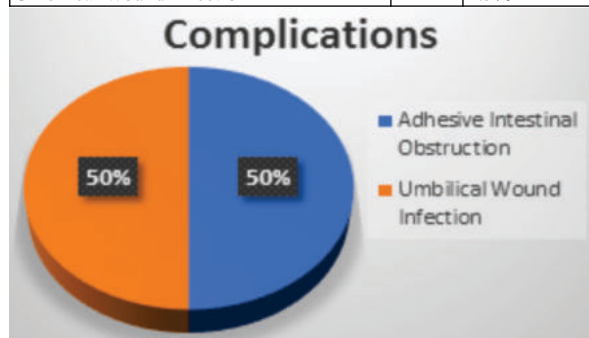


Table 5: Complications

Complication	Count	Percentage
Adhesive Intestinal Obstruction	1	1.3%
Umbilical Wound Infection	1	1.3%



DISCUSSION

The exceptional expansion of unimportant access an operation during the 1990s has been depicted as the best unaudited free-for-all in the verifiable scenery of medical procedure. Planning and approval of experts are the significant inquiries for the protected and moral show of the new methodology. Preliminary of data, tendency and psychomotor capacities have been utilized to overview and pick cautious understudies yet none of these associate well with the particular limit and the connected aptitudes of spatial objective and dexterity.⁷ Experts arranged in laparoscopic operation are permitted respects by the approving capable bodies or the expert's own establishment, as demonstrated by the doled out rules. The General public of American Gastrointestinal Endoscopic Surgeons⁸ and the European Relationship of Endoscopic Specialists have conveyed leads yet don't decide numerical necessities for any procedure. Among establishments, there is a remarkable assortment in the amount of techniques to be performed to achieve ability.

There is similarly broad conversation concerning the choice of operation where to set up the tenants in irrelevant access operation. Laparoscopic cholecystectomy has emerged as the strategy of choice for interesting cholelithiasis and a model framework for laparoscopic getting ready for grown-up subject matter experts. LA tends to a test for residency planning besides, its impact on the residency environment has not been examined in detail.⁹⁻¹⁰ It is at this point at the sufficiency period of progress, as most of the data on plausibility and security start from centers with phenomenal interest in immaterial access an

operation. It isn't yet seen as a best quality level for extraordinary a ruptured appendix. A wrongly seen considered longer assumption to learn and adjust, longer employable times, need for additional equipment and maybe, its show as an emergency framework during odd hours, have contributed towards the reluctance to recognize LA as an ideal framework for extraordinary a cracked reference section. Regardless, a contaminated reference section, being perhaps of the most broadly perceived pediatric cautious component, gives sufficient case material for a juvenile in laparoscopy to learn laparoscopic capacities like port increments, camera moves, dexterity, and treatment of stitches.

The cautious technique and selection of patients for laparoscopic appendectomy shifts among the core interests. At our establishment, laparoscopy is performed for all periods of a contaminated index. We practice and veres needle passage for umbilical port addition and have not experienced any intricacies related with the procedure. The appended mesentery is routinely fulgurated with bipolar diathermy. Anyway, there is dispute with respect to the utilization of laparoscopy for jumbled an infected appendix. Our experience suggests that fundamentally under an understudy's hands, laparoscopy is extremely acceptable as far as all periods of serious an infected appendix. We lay more importance on thorough peritoneal lavage what's more, inside walking around the ileocecal convergence proximally to deliver the attachment. Now and then we utilize stomach channels were we suspect discharge assortments. The main entanglements we found was in a young woman with penetrated and tainted supplement, who went through productive laparoscopic adhesiolysis. An exceptional and striking component was that none of our patients expected change to open a medical procedure. Nevertheless, subject matter experts and patients must see the worth in that exchanging over totally to an open movement isn't a burden anyway taking everything into account, commonly deduces sound cautious judgment. As may be obvious, affixed mass stuck to wall or omentum or cecu, close by fibrotic bonds without discharge release is the most really mentioning circumstance, requiring more capacities and resistance.

Laparoscopy similarly gives a good four-quadrant view what's more, area of various purposes behind serious midriff during examination for thought appendicitis.⁸⁻⁹ This would help in learning the end and simultaneous organization of those prompting wounds, and besides orchestrating passage focuses if change to open framework is required.⁸⁻⁹ Laparoscopic trans-umbilical Meckel's diverticulectomy with additional human resection and hand-sewn anastomosis and fragmentary omentectomy was performed successfully for synchronous bruises in our patients. Our experience suggests that extraordinary a contaminated informative supplement gives enough case material for the laparoscopic getting ready of cautious inhabitants. In spite of the way that techniques like intracorporeal hitching are not taught, they can be ruled with time, with various philosophy. In any case, laparoscopy in occasions of thought a cracked supplement is while trying, as a load of conditions reflect a cracked reference section. The framework is normally finished as an emergency in odd hours, assisted by clinical authorities and necessities with dominating oversight. Furthermore, the capacities of the expert are many times put to test, mentioning progression, as it's everything except a direct, a lot of portrayed procedure because of the contrasted region of the file close by the different periods of disturbance and related intricacies. Eventually, LA is pleasant for protected and convincing occupant planning and has exhibited to be safeguarded and reasonable for all periods of a cracked reference section. Our experience also exhibits that with great practice, other concurrent wounds experienced in cases of figured a cracked reference section in children can be successfully treated with laparoscopic procedures.

REFERENCES

1. Sweeney KJ, Keane FB. Moving from open to laparoscopic appendectomy. *BJs* 2003;20:257-8.
2. Semm K. Endoscopic appendectomy. *Endoscopy* 1983;15:59-64.
3. Emil SG, Taylor MB. Appendicitis in children treated by pediatric versus general surgeons. *J Am Coll Surg* 2007;204:34-9.
4. Gasior AC, St Peter SD, Knott EM, et al. National trends in approach and outcomes with appendicitis in children. *J Pediatr Surg* 2012;47:2264-7.
5. Faiz O, Blackburn SC, Clark J, et al. Laparoscopic and conventional appendectomy in children: outcomes in English hospitals between 1996 and 2006. *Pediatr Surg Int* 2008;24:1223-7.
6. Adiss DG, Shaffer N, Fowler BS, Tauxe RV. The epidemiology of appendicitis and appendectomy in the United States. *Am J Epidemiol* 1990;132:910-25.
7. Van Rij AM, McDonald JR, Pettigrew RA, Putterill MJ, Reddy CK, The Society of American Gastrointestinal Endoscopic Surgeons. Framework for post-residency training surgical education and training. *Surg Endosc* 1994;8:1137-42. Training and assessment of competence. *Surg Endosc* 1994;8:721-2

8. Duff SE, Dixon AR. Laparoscopic appendectomy: safe and useful for training. *Ann R Coll Surg Engl* 2000;82:388-91.
9. Neal GE, McClintic EC, Williams JS. Experience with laparoscopic and open appendectomies in a surgical residency program. *Surg Laparosc Endosc* 1994;4:272-6