World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-7, February 2022
ISSN: 2749-3644

COMPARATIVE STUDY BETWEEN COMPLICATIONS AFTER LAPAROSCOPIC AND OPEN APPENDECTOMY

Jassim Mohamed Khalaf
M. B. Ch. B. A. B. H. S. (General Surgery) Ministry of Health - Department of Health Al-Anbar – Al-Ramadi Teaching Hospital, Al-Anbar, Iraq.
Asaad Oleiwi Khalaf
M. B. Ch. B. F. I. C. M. S. Ministry of Health - Department of Health Al-Anbar - Al Qa'im General Hospital, Al-Anbar, Iraq.
Ahmed Qasim Zighir
M. B. Ch. B. F. I. C. M. S. Ministry of Health - Department of Health Al-Anbar - Heet General Hospital, Al-Anbar, Iraq

Article history:

Received: December 4th 2021
Accepted: January 4th 2022
Published: February 13th 2022

Abstract:

This is a painful swelling of the appendix of the cecum; a finger-like sac that connects to the large intestine, on the right side lower abdomen complications and, in most cases, peritonitis can be treated by prompt removal of the appendix and cleaning inside the abdomen to prevent inflammation. Without prompt treatment, peritonitis can cause death.
Appendicitis occurs when swollen lymph nodes in the appendix wall due to gastrointestinal infections or any mean in the body or blockage of the lumen of the appendix due to bacteria that interact within it, causing it to enlarge and its inflammation.
The data collected was studied at Ramadi teaching hospital from 600 patients, of whom 400 underwent a conventional appendectomy, and 200 patients were treated with laparoscopy and it was called by this name, the removal of this existing appendix Near the area where the small intestine and the large intestine connects in the human body, which ranges from 5 meters in length To 11 cm does not cause complications and harm to the body, which means that it has no role ,The appendix can be removed using two different techniques Laparoscopic surgery It is the most common technique in which a surgeon performs three or four incisions Small incisions (incisions) in the abdomen and the appendix is removed from a small camera known as an endoscope Using special surgical tools , The surgeon then sutures the large intestine, which was the appendix Adhesive tapes are attached to them and seal the cracks with steri-strips and The second technique is open surgery (a few the surgeon cuts the right abdomen, and cuts a small lower abdomen the appendix removes the appendix through it and then bandages the wound with strips-steri

Keywords: LAPAROSCOPIC, Abdominal, complications, surgical

INTRODUCTION

Abdominal hernia is known as the most common of all surgical problems, and it is a simple cut in the muscles that cover the abdomen above the intestine, resulting in the protrusion of a piece of the inner tissue of the intestine through the wall of the abdominal cavity to the outside of the abdominal wall to become its place under the skin, and the hernia spreads Abdominal hernia between different age groups, and has several types, including the inguinal hernia under the abdomen, which is the result of chronic constipation, and usually affects men, and the umbilical hernia for women that occurs with pregnancy and childbirth,

The development that we are witnessing in the medical field, and in the surgical field in particular, has contributed to the emergence of new techniques and means, which have led to a great revolution in the field of medicine. Among these available and common means are medical endoscopes in surgical operations to treat many diseases in various disciplines, which led to a decline or disappearance. Traditional open surgery, to be replaced by laparoscopic surgery, and every year new uses are added to laparoscopic surgery, in terms of equipment and techniques, but this technique may be unknown to some people, and some of them have concerns about the extent of its success or failure, in

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-7, February 2022
ISSN: 2749-3644

this investigation we will learn about surgery Endoscopes and how to use them, and what are the medical benefits of these endoscopes and what are the possible complications.

He explained that laparoscopic surgery has undergone many modifications over time, and has become smaller in size and clearer in vision, and its diameter does not exceed 3-4 mm, and despite its small diameter, there is a miniature channel inside the flexible endoscope, which allows the entry of some auxiliary surgical equipment During the operation, such as lasers, and small surgical forceps, as well as inserting some internal stents, and during the surgery, small incisions with a length of up to half an inch are made, and plastic tubes called portals or ports are inserted through these incisions, then the camera and precise surgical tools are inserted through These ports into the patient's body.

The necessity and importance of explaining the surgery and its purpose to the patient, so that he is aware of what will be done and be reassured. After that, the patient is presented to the anesthesia consultant to ensure that he is likely to be anesthetized, and if the patient suffers from chronic diseases, he is presented to the internal medicine consultant to control these problems, In most cases, the patient is admitted for endoscopic operations to the hospital on the same day that the operation will be performed, and the operation is performed through full, half or even local anesthesia, depending on the place where the surgery will be performed, and usually these operations take about an hour to two hours, After the endoscopic surgery, the vast majority of patients can be discharged from the hospital on the same day, and upon discharge from the hospital, the patient is prescribed antibiotics and pain medication, and the endoscopic limb is placed in a medical bandage, until the date of the first visit after surgery.

MATERIAL AND METHOD

Patient sample

600 patients were collected from Ramadi Teaching Hospital, Anbar, Iraq The first two pools, namely open appendectomy (OA) and laparoscopic appendectomy (LA) group, were obtained. The information mentions diseases in order to expand to the time during which the activity was carried out and the results gained from the activity and not only this, but it is additionally included in the complications that occur after the activity.

The conclusion was made clinically by history (right iliac fossa or pain around the umbilicus and quality/ejaculation) and actual evaluation (sensitivity or feeling of privilege iliac fossa).

Study design

In patients for whom a clinical determination couldn't be resolved, im- aging studies, for example, stomach ultrasound or to- mography were performed, and the two gatherings of patients were given a third-age prophylactic portion of cephalosporin and endless supply of general sedation as a component of an OA convention performed through the cut. Macintosh Burnie benchmark. After the cut, the peritoneum was gotten to and opened to convey the ad- dendum, which was eliminated in the standard way. A standard three-port strategy was utilized for the lapa- roscopy set. The pneumothorax was created at a steady pressing factor of 12-14 mmHg of carbon dioxide through the Ferris channel, put at a site underneath the umbilicus. The patient was put in the Trendelenburg position, with a slight left turn.

The stomach pit was analyzed to avoid different infections inside the midsection or pelvis. Subsequent to partitioning the informative supplement with bipolar forceps, the base of the addendum was gotten with two circles of designation, trailed by a distal analyzation of the subsequent ring. At that point, the distal affixed stump was shut to dodge the danger of a purulent or intestinal emission.

The example is set in an internal pack and recov- ered through a port under the navel 10 mm. All exam- ples were sent for histopathology.

Patients were not given oral nourishment until they completely recuperated from sedation and entrail sounds endless supply of clear liquids. The lean eating regimen was presented when patients endured the fluid eating routine and were gotten free from stomach gases. The patients were released from the medical clinic when they had the option to follow an ordinary eating

regimen, and had a fever and great torment control.

The activity time (in minutes) was determined for the two methods from the skin cut to the last skin join applied, and the length of emergency clinic stay was controlled by the quantity of evenings spent in the emergency clinic after medical procedure. Wound con-tamination has been characterized as redness, purulent or purulent release from the site of the cut. Serum was characterized as neighborhood growing without red-ness with clear liquid splash Paralytic ileus was charac-terized as inability to restore inside sounds inside 12 hours after medical procedure

STUDY PERIOD

The study period for collecting demographic information and data on patients from 1-9-2019 to 1-10-202

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-7, February 2022
ISSN: 2749-3644

AIM OF RESEARCH

the research aims at comparative study between complications after laparoscopic and open appendectomy

RESULTS

Categorical data were presented as frequencies and percentage and compared to Chi-square test Continuous parametric and non-parametric data were presented as mean deviation and standard deviation and were evaluated by Student's t-test and Mann - Whitney U test respectively. Comparisons were made between the two groups on an intention-to-treat basis. Consequently, patients in the group were not excluded with the help of endoscopes referred to the open procedure from the analysis.

The sample size was calculated for our study based on analysis of sample sizes required for each of the parameters (operation time, length of hospital stay, post-operative pain, complication rate, return to normal activity and cost) for α = 0.05 and a strength of 90%. A

P-value of 0.05 was considered significant. All calculations were performed with SPSS software package version 17.0 (SPSS Inc., Chicago, IL).

Table 1-**Demographic and preoperative clinical data**

	Open appendecto	**Laparoscopic appendecto**	***P***
Mean age	30.66 ± 16.14	28.66 ± 15.28	0.49
WBC count (per mm^3)	14808 ± 4579	13257 ± 5399	0.002
Co-morbidities			0.236
CAD	(1.7)	(1.6)	
Hypertension	(5.9)	(3.2)	
COPD	(2.8)	(2.3)	
DM	(3.6)	(1.5)	

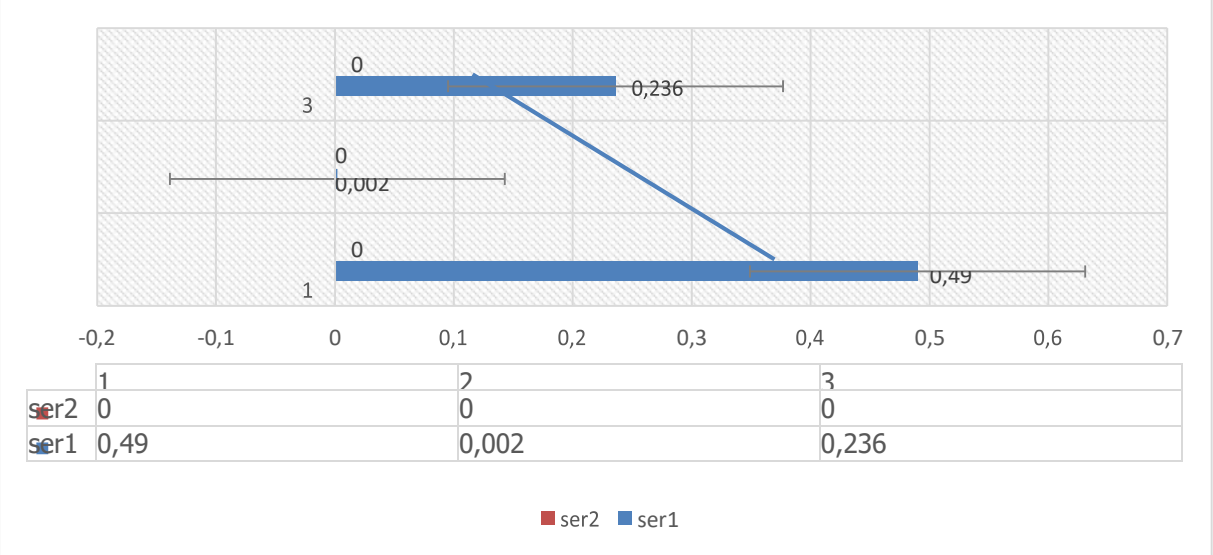


Figure 1- distribution of p value

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-7, February 2022
ISSN: 2749-3644

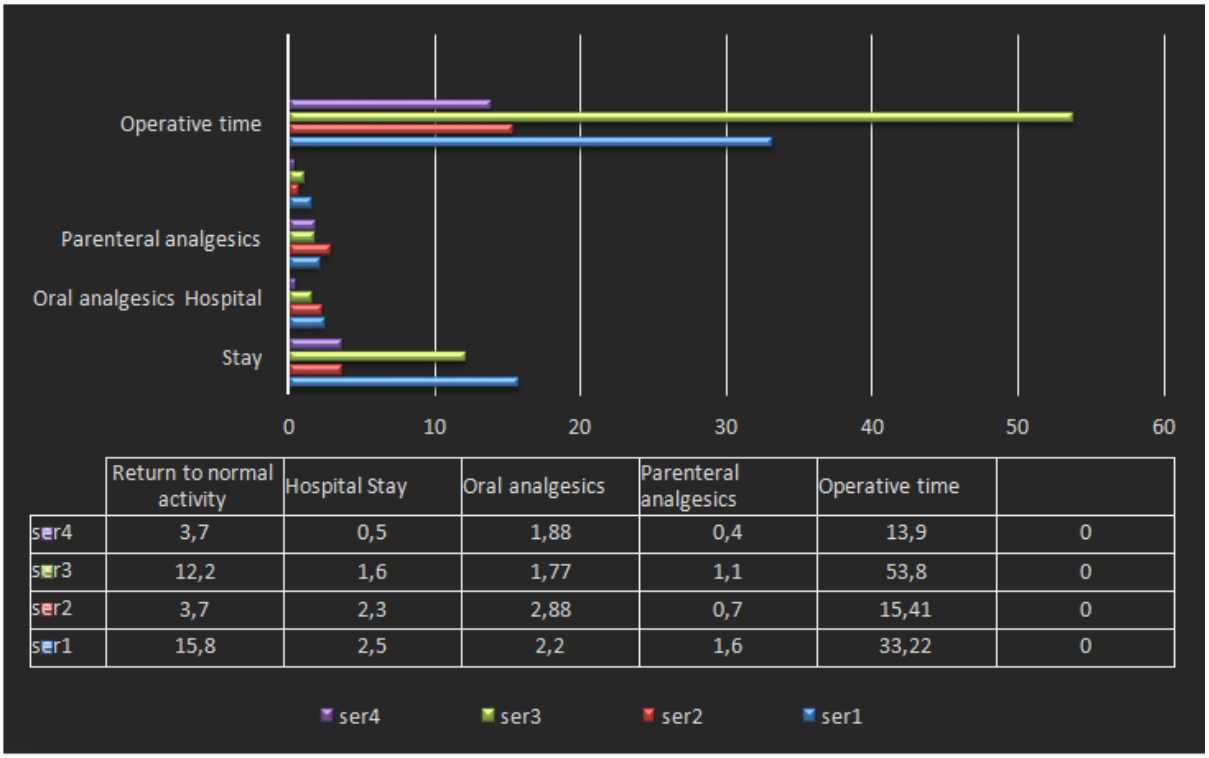
Table 2- Laparoscopic versus open appendectomy

	Open appendectomy	Laparoscopic appendectomy (n = 200)	p
Surgical findings, n (%)			0.074
Uncomplicated acute appendicitis	250 (68.8)	150 (84.8)	0.056
Appendiceal abscess	100 (13.1)	27 (7.5)	0.03
Gangrenous appendicitis	60 (7.5)	13 (4.1)	0.002
Peritonitis	40 (10.8)	10 (2.8)	0.342

Table 3-Clinical, surgical and postoperative data

	Open appendectomy	LA	P
Operative time (min)	33.22 ± 15.41	53.8 ± 13.9	<0.0001
Time until diet (1st POD)	188 (61.9)	238 (85.2)	<0.001
Parenteral analgesics	1.6 ± 0.7	1.1 ± 0.4	0.001
Oral analgesics (doses/day)	2.2 ± 2.88	1.77 ± 1.88	<0.0001
Hospital Stay (day)	2.5 ± 2.3	1.6 ± 0.5	0.015
Return to normal activity (day)	15.8 ± 3.7	12.2 ± 3.7	<0.001

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-7, February 2022
ISSN: 2749-3644



	Return to normal activity	Hospital Stay	Oral analgesics	Parenteral analgesics	Operative time	
ser4	3,7	0,5	1,88	0,4	13,9	0
ser3	12,2	1,6	1,77	1,1	53,8	0
ser2	3,7	2,3	2,88	0,7	15,41	0
ser1	15,8	2,5	2,2	1,6	33,22	0

Figure 2- Graphic distribution of Mean±SD surgical and postoperative data

Table 4- Comparison of complications after the operation

complications	**Open (*n* = 70)**	**Laparoscopic (*n* = 22)**	***P***
Minor			
Vomiting	14 (21.6)	10 (41.3)	0.531
Paralytic ileus	10 (15.1)	5 (26.3)	0.417
Wound infection	32 (42.8)	2 (12.9)	0.001
Major			
Wound dehiscence	10 (18.1)	0 (0.0)	0.001
Intra-abdominal abscess	2 (1.5)	3 (13.5)	0.210
Hemoperitoneum	2 (1.5)	0 (0.0)	0.321

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-7, February 2022
ISSN: 2749-3644

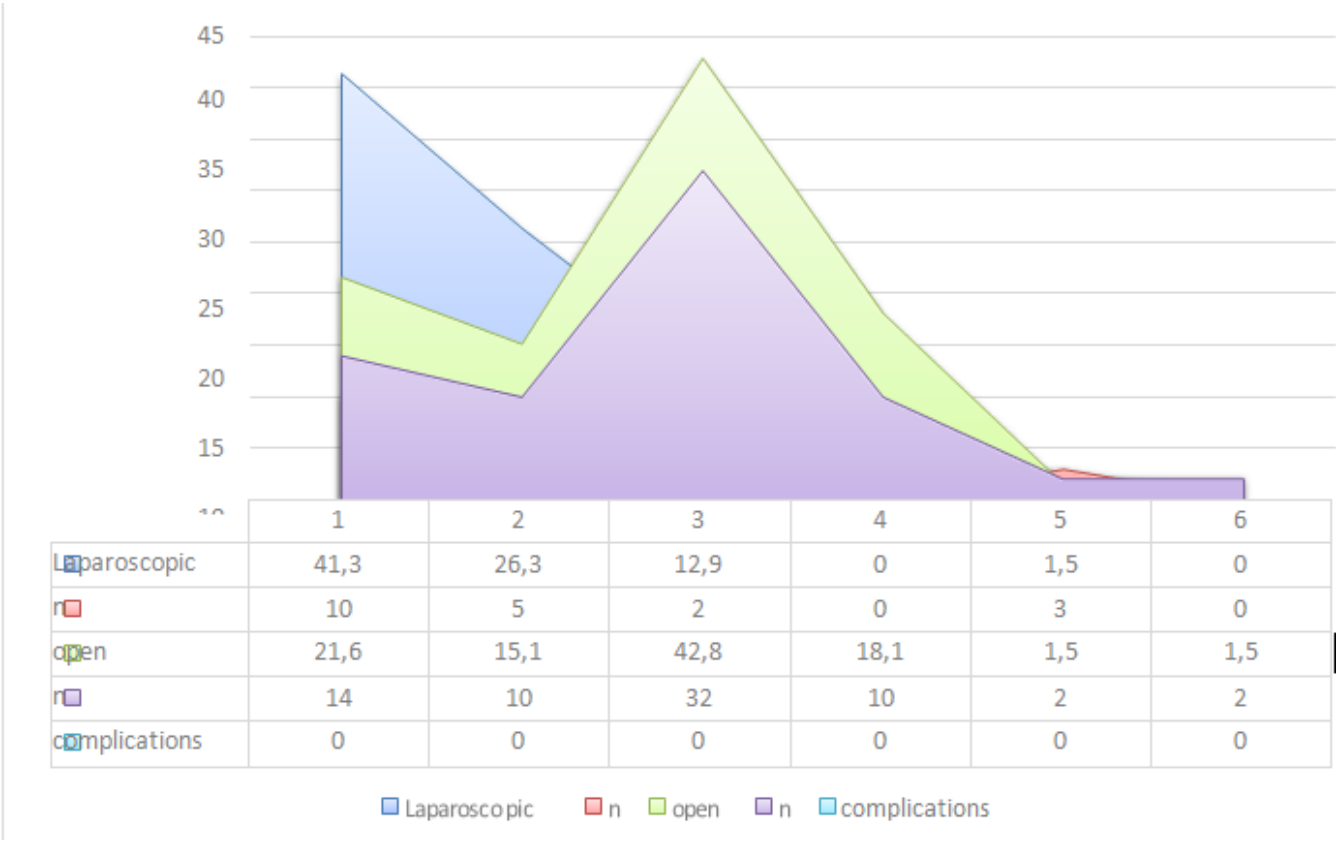


Figure 3- It shows the nature of the distribution complications after the operation

DISCUSSION

An appendectomy in acute appendicitis is a com- mon emergency surgical procedure. Open appendec- tomy has been the gold standard treatment for acute appendicitis since MacBurney's prescription in 1894. Although appendectomy is considered a safe procedure, complications are possible. Among the most prominent are wound infection, intra-abdominal abscess, adhesions, intestinal obstruction, and pulmonary complications from general anesthesia.

Since its first description in 1983, laparoscopic appendectomy has gained popularity with accumulating evidence demonstrating the benefits of the laparoscopic approach in terms of shorter hospital stays, faster recovery, and better post-operative pain control. Moreover, laparoscopy allows a complete and comprehensive evaluation of the abdominal cavity and increases diagnostic accuracy, especially in females where rates of appendectomy with normal tissues have been very high.

The development of an intra-abdominal abscess after surgery (IAA) after an appendectomy is a rare and serious complication and is associated with significant morbidity. Some reports indicated an increased risk of developing an intra-abdominal abscess after laparoscopic appendectomy compared to open surgery, while others reported the opposite.

Acute appendicitis is the most common intra-abdominal condition that requires emergency surgery The possibility of developing appendicitis must be considered in any patient with an acute abdomen, and preoperative diagnosis remains a challenge [28, 29]. Although more than 20 years have passed since the introduction of laparoscopic appendectomy (performed by the gynecologist Semm in 1983), open appendectomy is still the traditional method. Some authors consider emergency laparoscopy as a promising tool for treating abdominal emergencies capable of reducing costs and intervention, maximizing outcomes and patient comfort

Several studies have shown that laparoscopic appendectomy is safe and leads to a faster return to normal activities with fewer wound complications These results were challenged by other authors who noted no significant difference in outcome between the two procedures, and noted higher costs with laparoscopic appendectomy.

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-7, February 2022
ISSN: 2749-3644

CONCLUSION

Appendicitis is a painful medical condition that can rupture the inflamed appendix. When the appendix ruptures If the patient is infected, pus leaks out and the infection moves to the abdominal cavity, and this may lead to inflammation The peritoneum, which is an in- flammation of the abdominal cavity, and inflammatory complications include failure of the body's organs And death, so treatment of peritonitis requires emergency surgery when the appendix ruptures Appendicitis does not respond well to antibiotic treatment. So the most treatment method Commonly, surgery can be per- formed by opening or laparoscopy, which is an appen- dectomy will determine the appropriate type for the pa- tient's condition Appendectomy is a very safe and suc- cessful surgery. Its risks and complications are very rare, knowing these risks and the signs may help them to be detected and addressed early

REFERENCES

1. Chung, R.S., Rowland, D.Y., Li, P. and Diaz, J., 1999. A meta-analysis of randomized controlled tri- als of laparoscopic versus conventional appendec- tomy. The American journal of surgery, 177(3), pp.250-256.
2. Garbutt, J.M., Soper, N.J., Shannon, W.D., Botero, A. and Littenberg, B., 1999. Meta-analysis of randomized controlled trials comparing laparoscopic and open appendectomy. In Database of Abstracts of Reviews of Effects (DARE): Quality-assessed Reviews [Internet]. Centre for Reviews and Dissemination (UK).
3. Frazee, R.C. and Bohannon, W.T., 1996. Lap- aroscopic appendectomy for complicated appendici- tis. Archives of Surgery, 131(5), pp.509-512.
4. Tang, E., Ortega, A.E., Anthone, G.J. and Beart, R.W., 1996. Intraabdominal abscesses following laparoscopic and open appendectomies. Surgical en- doscopy, 10(3), pp.327-328.
5. McBURNEY, C.H.A.R.L.E.S., 1894. IV. The incision made in the abdominal wall in cases of appen- dicitis, with a description of a new method of operat- ing. Annals of surgery, 20(1), p.38.
6. Sauerland, S., Jaschinski, T. and Neugebauer, E.A., 2010. Laparoscopic versus open surgery for sus- pected appendicitis. Cochrane Database of Systematic Reviews, (10).
7. Krukowski, Z.H., Irwin, S.T., Denholm, S. and Matheson, N.A., 1988. Preventing wound infection after appendicectomy: a review. British journal of sur- gery, 75(10), pp.1023-1033.
8. Hart R, Rajgopal C, Plewes A, Sweeney J, Da- vies W, Gray D, Taylor B. Laparoscopic versus open appendectomy: a prospective randomized trial of 81 pa- tients. Canadian journal of surgery. 1996 Dec;39(6):457.
9. Minné, L., Varner, D., Burnell, A., Ratzer, E., Clark, J. and Haun, W., 1997. Laparoscopic vs open ap- pendectomy: prospective randomized study of out- comes. Archives of surgery, 132(7), pp.708-712.
10. Johnson, A.B. and Peetz, M.E., 1998. Laparo- scopic appendectomy is an acceptable alternative for the treatment of perforated appendicitis. Surgical en- doscopy, 12(7), pp.940-943.
11. Garbutt, J.M., Soper, N.J., Shannon, W.D., Botero, A. and Littenberg, B., 1999. Meta-analysis of randomized controlled trials comparing laparoscopic and open appendectomy. In Database of Abstracts of Reviews of Effects (DARE): Quality-assessed Reviews [Internet]. Centre for Reviews and Dissemination (UK).
12. Biondi, A., Grosso, G., Mistretta, A., Marven- tano, S., Toscano, C., Drago, F., Gangi, S. and Basile, F., 2013. Laparoscopic vs. open approach for colorectal cancer: evolution over time of minimal invasive sur- gery. BMC surgery, 13(2), pp.1-6.
13. Grosso, G., Biondi, A., Marventano, S., Mis- tretta, A., Calabrese, G. and Basile, F., 2012. Major postoperative complications and survival for colon can- cer elderly patients. BMC surgery, 12(1), pp.1-5.