بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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Comparative evaluation of onlay vs sublay mesh in treatment of ventral hernias.

A Thesis

Submitted for partial fulfillment of Master degree
in General Surgery

By

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2021


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سورة البقرة الآية: ٣٢

Acknowledgments

First and foremost, I feel always indebted to **Allah**, *the* ***Most Beneficent*** *and* ***Merciful*** *who gave me the strength to accomplish this work.*

My deepest gratitude to **Prof. Dr. Amr Abdel Raouf Abdel Naser,** *Professor of General Surgery, Faculty of Medicine, Ain Shams University, for his valuable guidance and expert supervision, in addition to his great deal of support and encouragement. I really have the honor to complete this work under his supervision.*

I would like to express my great and deep appreciation and thanks to **Assist. Prof. Ahmed Abdel Razek Abdel - Aziz,** *Assistant Professor of General Surgery, Faculty of Medicine, Ain Shams University, for his meticulous supervision, and his patience in reviewing and correcting this work.*

I must express my deepest thanks to **Dr. Remon Mamdouh Mahfouz,** *Lecturer of General Surgery, Faculty of Medicine, Ain Shams University, for guiding me throughout this work and for granting me much of his time. I greatly appreciate his efforts.*

Special thanks to my **Parents** *and all my* **Family** *members for their continuous encouragement, enduring me and standing by me.*

Ahmed Ezzat Abd-Elrahiem

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Abbr.	Full-term
CBC	Complete blood count
ECG	Electrocardiography
ECHO	Echocardiography
INR	International normalized ratio
KFT	Kidney functions tests
LFT	Liver function tests
PT	Prothrombin time

Introduction

Ventral hernia is commonly encountered in surgical practice. An estimated one-quarter of all individuals are either born with or will develop a ventral hernia in their lifetimes. ***(Bedewi et al.,2012)***

It is a common surgical problem and refers to fascial defect of the anterolateral parietal abdominal wall fascia and muscles, through which intermittent or continuous protrusion of intra-abdominal or preperitoneal contents occurs. ventral hernias include umbilical, paraumbilical, epigastric, spigelian, inscional. ***(Poulose et al.,2012)***

Causes of ventral hernia may be congenital (Ehlers-Danlos syndrome, Marfan's syndrome, etc.) or acquired (surgery, trauma). If patient developed abdominal hernia having no previous surgery at the hernia site, these are often due to weakness in the abdominal wall present at birth. As the patient becomes older or injured, these weaknesses can worsen, leading to hernia. Other risk factors are Pregnancy, Obesity, History of previous hernia, Family history of hernia, frequently lifting or pushing heavy objects, Chronic cough, Straining during defecation or micturition, Some medicines, such as steroid**.** ***(Rutkow et al., 2003)***

Incision hernia (ventral) can occur after any abdominal surgery, but they are more common in some patients, such as old patient, Obese patient, Diabetics, Patients using steroid, Lung disease, Smoking, Surgical

site infection, Postoperative repeated vomiting, Postoperative abdominal distention. ***(Holihan et al., 2016)***

The reported incidence of incisional hernia after midline laparotomy is 3–20% and becomes doubled if the wound gets an infection Usually 50% of incisional hernias are detected within 1 year of surgery, but they can occur several years after surgery, with a subsequent risk of 2% per year. ***(Eker et al., 2013)***

Ventral hernia usually presents as painless bulge or lump in abdomen under the skin, which increases in size over time. Sometimes it presents as only discomfort in abdomen and sometimes discomfort or pain with bulge. Sometimes ventral hernia may cause pain when a patient: Cough, Strains during defecation, Stands or sit for long time, Lifts or pushes heavy objects. ***(Raghuveer et al. 2018)***

Surgery is the main stay of treatment since the natural history of hernia is progressive. i.e. (Hernia can increase in size, cause pain and discomfort or they may lead to complications like obstruction, incarceration and strangulation of bowel). ***(Sauerland et al., 2011)***

Main methods of ventral hernia repair are: Open hernia repair, minimally invasive hernia repair (laparoscopic), Robotic ventral hernia repair. Laparoscopic ventral hernia repair when we compare it with open hernia repair it shows decreased overall complication rate, decreased hospital length of stay, and a quicker return to work. The disadvantage of laparoscopy includes a higher potential for visceral injury, and it is

technically more difficult and it is not widely available. Therefore, open repair is the most widely practiced technique for ventral hernia repair. ***(Heniford ,2016)***

The repair of ventral hernias varies from primary closure only, primary closure with relaxing incisions, primary closure with an onlay mesh reinforcement, onlay mesh placement only, inlay mesh placement, and intraperitoneal mesh placement. ***(Saber, 2016)***

Primary closure techniques are usually performed for small fascial defects less than 5 cm in greatest diameter. Even for small hernia defects, recurrence rates in excess of 50% have been reported. ***(Dhaigude et al., 2017)***

Many prosthetic materials have been tried in hernia repair, but the two most common in current use are polypropylene mesh and expanded polytetrafluoroethylene but Permanent synthetic mesh can pose a serious clinical problem in the setting of infection However, it is the understanding of the abdominal wall that has made complex procedures possible including myofascial and musculocutaneous advancement flaps through component separation and muscular release. ***(Timmermans et al., 2013)***

An onlay, usually of polypropylene mesh, is sutured to the anterior rectus sheath after the fascial defect has been closed primarily. This type of repair has the potential advantage of keeping the mesh separated from the abdominal contents by full abdominal muscle fascial wall thickness.

The disadvantages of this repair include repair under tension, large subcutaneous dissection that allows for seroma formation, and mesh infection when the surgical wound becomes infected. ***(Bhat and Somasundaram, 2007)***

The sublay (retrorectus) placement of a mesh, more commonly known as the Stoppa technique. The recurrence rates with this repair have been stated to be less than 10% but the operative time is elongated. ***(Eker et al., 2013)***

The location of the reinforcement appears to influence outcomes. The two operative techniques most frequently used in case of ventral hernia are the onlay and sublay repair. However, it remains unclear which technique is superior. ***(Timmermans et al., 2013)***