

Long Period Vs Short Period in Situ Drain in Paraumbilical Hernia Repair

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Abstract

Background: Paraumbilical Hernia is more likely to be incarcerated or strangulated so the repair of such hernia is advisable as early as possible.

Objective: To outcome the benefit of the long period that the drain had been kept in situ after Paraumbilical Hernia repair for reducing the complications.

Patients and Methods: 150 patients were included in this study which had been performed in Diyala province in the period of January 2004 – December 2006 to whom Mayo's repair had been performed for their Paraumbilical Hernia and these patients had been divided into two groups, group (1) which include 75 patients in whom the drain had been left for 48 hours only, group (2) include 75 patients in whom the drain had been left for 7 days.

Results: We found that in the group (1), 30 (40%) patients had developed seroma collections and 16 (21.33%) patients had developed wound infection with this seroma, 10 (13.33%) patients developed hematoma collections and 7 (9.33%) developed wound infection with this hematoma.

In group (2) we found that only 7 (9.33%) patients developed seroma collection and 3 (4%) patients developed wound infection with this seroma, 3 (4%) patients developed hematoma collection and 2 (2.66%) patients developed wound infection with this hematoma.

Keyword: Paraumbilical Hernia, Drain, Mayo's repair.

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Introduction

A paraumbilical hernia is the uncharacteristic protrusion of abdominal content (e.g. bowel or fat) that pushes through the abdominal wall surrounding your umbilicus or navel. This protrusion is more apparent when you are standing or straining—coughing, pushing, lifting heavy objects. Strenuous activities usually cause the bulge around your umbilicus to appear. [1]

When a piece of bowel or fat gets stuck in the paraumbilical hernia, it can be very

painful and may eventually lead to a very severe strangulated hernia. This is why it is advisable to have the hernia treated immediately to avoid these grave complications.

A paraumbilical hernia in adults is illustrated by a protrusion of an internal organ brought about by a defect or weakness in the abdominal walls. This irregular bulge extends through the umbilical wall.

Like what the name states, the malformation is found near or beside (i.e. Para) the

umbilicus and not through the navel itself which is the common representation of an umbilical hernia in infants. A paraumbilical hernia usually appears through a weak area in the linea alba. Umbilical hernia is congenital in newborns whereas paraumbilical hernia develops in adults. [2]

Who are Susceptible to Paraumbilical Hernia
A paraumbilical hernia usually occurs over time to people with inherently delicate abdominal walls. It can appear at any adult age, but is more common among pregnant women and overweight people.

A paraumbilical hernia is also more prevalent among individuals of African or Chinese roots. Though this type of hernia shows an equal number of incidences among male and female children, there is three times the number of occurrences among female adults than male adults. If you've had an umbilical hernia as an infant, this does not necessarily mean that you are prone to getting paraumbilical hernia as an adult. Studies show that only one out of ten adults with paraumbilical hernia has a history of umbilical hernia. This persistence of umbilical hernia to adulthood is only common among people of African descent. [3]Surgery is the recommended treatment to repair a paraumbilical hernia. Undergoing surgery can completely remove your hernia and consequently avoid all possible complications.

How to Treat Paraumbilical Hernia
Paraumbilical hernias can be small or large. A small paraumbilical hernia shows a lump less than 5 centimeters in diameter. This is easy to repair through surgery. A large paraumbilical hernia, which is equal to or more than 5 centimeters in diameter, is more difficult to repair since there is a possibility of damaging your gut and acquiring infection.

There is no other recommended treatment for

a paraumbilical hernia than surgery. Though some people may choose to ignore this type of hernia while it is still small, it is best to have it repaired early before it becomes big, painful and irreducible. Delaying treatment may also lead to a life-threatening strangulated hernia where abdominal content may get stuck in the lump and block blood supply. [4]

How to Prevent a Paraumbilical Hernia

Prevention is definitely a better option than any remedy. Adults can avoid acquiring a paraumbilical hernia by practicing the following:

1. Maintain the appropriate weight for your age, height and body type.
2. Maintain a healthy diet of fruits, vegetables and whole grains.
3. Exercise regularly to maintain fit abdominal muscles.
4. be careful when lifting heavy objects.
5. Quit smoking.
6. Consult with your doctor when you have a persistent cough or colds.

Increases in pressure due to pregnancy or obesity and deterioration of abdominal walls and muscles are the common causes of paraumbilical hernias in adults standard method of repair of paraumbilical hernia (PUH) is by the Mayo technique, using a double-breasted flap of the rectus sheath. The reproducibility of this technique in the hands of others is highly variable. There is a study which describes and evaluates the application of a Prolene mesh plug in the repair of PUH. The use of a mesh plug in hernia repair is not a new concept with previous investigators yielding consistently discussion. [5,6] Paraumbilical hernia is more common in females, Caucasians and the obese.2 it is relatively common, especially in the fifth and sixth decades of life, with an acquired defect in over 90% of cases.3.

Patients and Methods

This study is a prospective study that held in Diyala Governorate hospitals (Baquba General Hospital and private hospitals) in the period from January 2004 – December 200 in which 150 patients were included to whom a mayo's repair was performed for their paraumbilical hernia.

The suture material which had been used was synthetic monofilament suture (nylon No.1).

The mean age of the patients was 40.8 ± 6.7 years

The patients were divided in tow groups:

1. Group1 which include 75 patients (70 females, 5 males).
2. Group2 which include 75 patients (68 females, 7 males).

The patients ages were from 30-55 years, thin and diabetic patients were excluded from this study. All the patients were treated with mayo's repair and the drain with had been used was a tube drain of 12-16 G size.

In group [1] we left the drain in situ for only 48 hours In group [2] the drain had been left in situ for 7 days (with stiches removal).

In both groups we used a prophylactic antibiotic regimen with three doses (first dose with the induction of anesthesia, the second dose after 12 hours and the third dose after 24 hours).

The antibiotic with had been used is third generation of cephalosporin (cefotaxime).

Results

Regarding group (1)

A 30 patients (40%) had got seroma collection which was manage by frequent aspiration using wide bore needle and some need open drainage, 16 (21.33%) from these (30 patients) developed wound infection then after. 10 (13.33%) patients developed haematoma collection which was managed by evacuation, 7 (9.33%) from these 10 patients developed wound infection then after.

Table 1: illustrate the complications occur in group (1)

Group 1	Seroma / wound infection	%	aematoma / wound infection	%
		30/16	40% / 21.33%	10 / 7

Regarding group (2)

7 (9.33%) patients developed seroma collection, 3 (4%) patients from these 7 patients developed wound infection then after. 3 (4%) patients developed haematoma collection which was managed by

evacuation, 2 (2.66%) patients from these 3 patients developed wound infection with haematoma. There was a significant difference between these two studied groups ($p < 0.05$).

Table 2: illustrate the complications occur in group (2)

Group 1	Seroma / wound infection	%	Haematoma / wound infection	%
		7 / 3*	9.33% / 4%	3 / 2



Discussion

The outcome of paraumbilical Hernia repair is still a challenging to the surgeon due to high percentage of post operative complications such as haematoma, seroma, wound infection and recurrence.

In this study our aim is to find a process by which we can reduced the percentage of the above mentioned complications, which is the time of drain removal and we found as long the drain is kept inside the less complications will occur. In our study we found that 40% will develop seroma if the drain had been removed early, this is going with the study held by Haytham M.A. Kaafarani (Seroma in ventral incisional herniorrhaphy: incidence, predictors and outcome) in which he found that the seroma is much likely to occur in patients when no drains had been apply after repair. All of the seroma which develop in our patients necessitate frequent aspiration &/or open drainage this is in contrast to Haytham M.A. Kaafarani result in which he found Spontaneous resolution occurred in 71% of seromas; 29% required aspiration. From our study we found that there is statistically significant ($p < 0.5$) in the difference between the complications that happen when the drain is removed early and there is less complications if it is kept for long period. The evacuation of either haematoma & seroma with tight dressing is an important factor to prevent infection and abscess formation which leads to toxicity and weakening of the repair that may be as a predisposing factor for wound dehiscence or late recurrence.

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