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OUTCOME OF REPAIR OF INCISIONAL HERNIA

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Abstract:

Objective: This research work aimed to find out the outcomes of repair of IH (Incisional Hernia) with artificial or unnatural mesh.

Methodology: *This is a retroactive elaborate research work carried out in the surgical department of General Hospital, Lahore from March 2014 to December 2018. A sum of one hundred and twenty one patients were the participants of this research work. In this research work, patients suffering from IH who got repair with mesh & finished the at least nine months period of follow up, were the part. The patients who medically diagnosed of having IH dot admission and after essential preparation underwent surgery & a synthetic mesh was in use for the closing of the defect in the wall of abdomen cavity. In the duration of initial after surgery and follow-up period, the assessment of the patients carried out to determine the presentation of various issues like infection, seroma, discharging sinus development & recurring of the disease.*

Results: *Out of total one hundred and twenty one patients, seventy three patients were female & forty eight patients were males. In majority of patients, IH caused from procedures in emergency. In 28.90% (n: 35) patients, we found formation of seroma after surgery, 14.0% (n: 17) patients found with infection of wound. Subcutaneous hematoma occurred in one (0.80%) patient because of undiagnosed bleeding which latter on needed removal under anesthesia. About 6.60% (n: 8) developed recurring hernia and some patients among them got the same treatment again. In 9.90% (n: 12) patients, there was skin necrosis from mild to moderate nature and in these patients, debridement was one of the evidence of victorious therapy. Incomplete dehiscence of wound was available in 3.30% patients.*

Conclusions: *IH is very frequent in midline wounds of laparotomy particularly carried out in the conditions of emergency and only one method of mesh repair was available with satisfactory results.*

Keywords: *IH, hernia, debridement, wound, surgery, necrosis, seroma, sinus, dehiscence, methodology, abdomen cavity.*

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INTRODUCTION:

The extrusion of the content of abdomen through a frail surgery scar or a wound on the internal wall of abdomen accidently is incisional hernia. This problem is very serious complication of the operation of abdomen particularly performed in the condition of emergency. The complete prevalence of IH is three to five percent and this complication is very frequent among females [1, 2]. The prompting factors of IH are elder age, immune-compromised condition (failure of kidney, use of steroid, diabetes mellitus), fatness, malignancy, distension of abdomen cavity from obstruction, adverse closure of wound, and hematoma of wound after surgery, infection of wound, atelectasis & infection of chest [3].

A few patients who were undergoing surgery have increased chance of hematoma & infection of wound, dehiscence of the wound & recurring of the complication [4]. Various methods are available for hernia repair as anatomical repair, Mayo's method, Keel's procedure of hernia repair & Cattle's repair of hernia but procedure of mesh repair is corner stone for the management of IH [9]. The recurring of the disease is very frequent after the repair of large IH. About 1/3rd hernias will recur within 3 years duration.

PATIENTS AND METHODS:

Total one hundred and twenty one patients were the part of this research work, all these patients underwent the mesh repair for IH in the department of surgery General Hospital Lahore from March 2014 to December 2018. The patients who underwent surgery for some reason and developed IH were the part of this research work. The patients suffering from IH with co-morbid complications as liver cirrhosis, malignancy inside the abdomen or COPD (Chronic Obstructive Pulmonary Disease) were not the part of this research work. The patients who got admission from the OPD of the department underwent thorough investigation & examined for the need of any surgical interference to tackle the issue and prevent patients from suffering.

We carried out the evaluation of the location of the wall of abdomen available with defect and we also measured the size of hernia from at least two dimensions. We gave the prophylactic antibiotic to every patients in the morning of the day of surgery. Surgery of all the patients carried out & mesh repair performed regardless the size, dimensions and location of hernia. In all the patients, fascial closing carried out first & then an only mesh reparation carried out utilizing the prolene mesh with a size of 30.0 x 30.0 centimeters or 15.0 x 15.0 centimeters which was depending upon the total size of the defect in the patient. We put the vacuum drains in all the patients and shifting of the patients carried out to the ward from operation theater. We encouraged the timely mobilization in all the patients.

Prophylaxis of DVT (deep venous thrombosis) performed in majority of patients. The removal of drainage carried out after drains remained dry for greater than twenty four hours. Patients got discharge from hospital ad they had to visit the OPD at an interval of 2 to 3 months for at least nine months an in these visits we investigated the complications among them as seroma formation, formation of sinus, sepsis, obstruction in intestines and recurring of the hernias. We recorded all the outcomes of the patients on Performa. At the end of this research work, we compiled all the findings and various variables and analysis of the gathers information carried out.

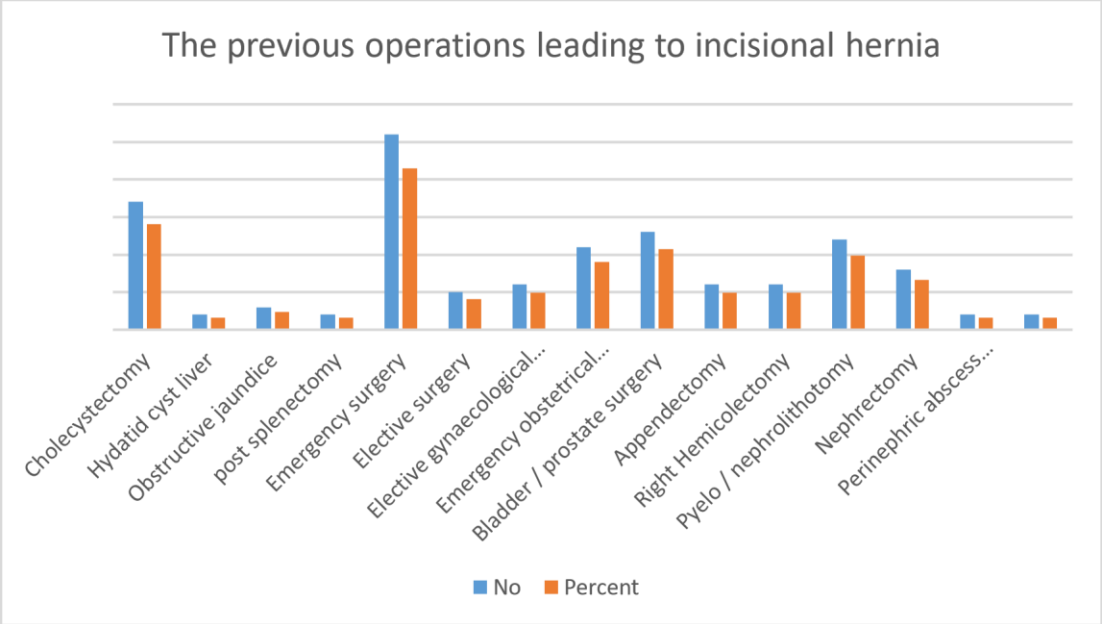
RESULTS:

Total 121 patients in whom seventy three were females and forty-eight were males, were the part of this research work. In most of the patients, we found a past background laparotomy history through incision from midline for the condition of emergency as peritonitis, obstruction in intestines, injury by gunfire, abscess in intra-abdominal etc. whereas in twenty two patients, occurrence of the hernia was in Kocher's incision formed for cholecystectomy, diseases of hydatid liver & jaundice as presented in Table-1.

Table-I: The previous operations leading to incisional hernia (n=121)

Previous Operation		No	Percent
Kocher's incision for	Cholecystectomy	17.0	14.04
	Hydatid cyst liver	2.0	1.60
	Obstructive jaundice	3.0	2.40
Left subcostal incision	post splenectomy	2.0	1.60
Midline incision for	Emergency surgery	26.0	21.48
	Elective surgery	5.0	4.10

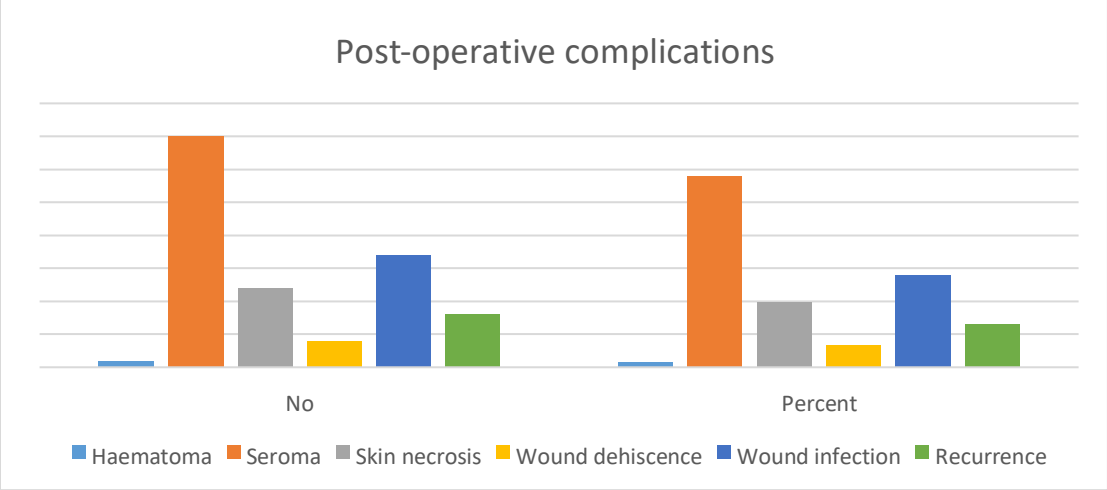
Pfannensteil incision for	Elective gynecological procedures	6.0	4.90
	Emergency obstetrical procedures	11.0	9.00
	Bladder / prostate surgery	13.0	10.70
Grid iron incision for	Appendectomy	6.0	4.90
	Right Hemicolectomy	6.0	4.90
Rutherford Morrison's incision for	Pyelo / nephrolithotomy	12.0	9.90
	Nephrectomy	8.0	6.60
	Perinephric abscess drainage	2.0	1.60
Others		2.0	1.60



The very frequent complication after surgery was the formation of seroma & most of these patients got treatment single aspiration or repetitive aspirations as mentioned in Table-2. Infection of wound was following this complication. The range of infection of wound was from superficial infection of wound to frank sepsis of prosthesis.

Table-II: Post-Operative Complications (n=77)

Complications	No	Percent
Hematoma	1.0	0.80
Seroma	35.0	28.90
Skin necrosis	12.0	9.90
Wound dehiscence	4.0	3.30
Wound infection	17.0	14.00
Recurrence	8.0	6.60



Conservative measurement were in action for the treatment of majority of patients as repetitive bandages, debridement & utilization of antibiotics. Only single patients was available with the need of Mesh removal as she got development of entero-cutaneous fistula. The recurring rate of the complication was 6.60% & 5 of these patients got treatment with the repeat repair of mesh but other three patients missed their follow up. In 1 patient, an undiagnosed bleeder caused the formation of subcutaneous hematoma and removal of this material carried out. About 9.90% (n: 12) patients got development of various degrees of necrosis of skin. Most patients perform very well with simple debridement whereas some patients required re-suturing. Dehiscence of the wound was also present in four patients because of infection.

DISCUSSION:

IH normally initiates as a disruption without symptoms in the wound of deeper layer of abdomen during the fast and initial period after surgery [7]. Sepsis is the most important reason of the incisional hernia [812]. In our patients, the involvement of midline incisions was very frequent and other authors also noted the same findings [3, 12]. Different methods with normal repair & proposal of mesh repair is available but still there is availability of controversial ideas in this very literature about the effectualness of the method of mesh repair vs normal anatomical closure [13].

Some researchers state that the findings of mesh repair method are very superior to the normal repair because mesh repair has very low recurring rate [14], whereas some researchers have concluded satisfactory results with the method of mesh repair. They comprise the blend of mesh & fascia, sandwich of mesh & sheath of rectus sheath and a peritoneal sandwich of complex mesh, however the overlying method utilizing mutual fascia & mesh provides excellent outcomes [15-17].The formation of seroma was the very frequent problem followed by the infection of wound in this research work and these outcomes are equivalent to the findings of some research works but the values of this research work are a little bit higher in comparison with other research works [15, 18, 19].

We applied only the method of mesh repair on all of our patients. in this recent work, different degree of the infection of wound having range from superficial infection to the formation of abscess as observed in 14.0% (n: 17) patients & most of these patients got treatment with the utilization of the conservative measure. We have to remove the mesh in only one patients due to severe complication in him. We concluded the recurring complication in 6.60% (n: 8) patients in our subjects & same outcomes were available in many research works conducted in various countries of the world [20, 21].

CONCLUSIONS:

IH is very common complication in the wounds of midline laparotomy particularly performed for the conditions of emergency and most satisfactory procedure for its management is procedure of mesh repair.

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