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The Scenario of Incisional Hernia - An observational Study

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Abstract
Background: *Since few decades in the state of Andhra Pradesh the high number of Incisional Hernia is being observed among the young & middle aged female population because of happening of high rate of caesarean sections as the commonest mode of safe delivery being practiced in private health setup, alarmed me to conduct the present study on female Incisional hernia patients attending government general hospital Guntur, Andhra Pradesh, India.*
Objectives: *1. To know the Socio-demographic profiles of the study group 2. To identify the factors associated with the development of Incisional hernia.*
Study Design: *It is a descriptive observational study.*
Study Area: *General surgery department of Government General Hospital, Guntur.*
Study subjects: *Female Incisional hernia patients admitted in the hospital for repair.*
Sample Size: *120, Sample Period: August 2015 to October 2016.*
Results: *Among the total study group maximum 71.6% of the problem was observed in house wives whose abdominal musculature is so weak when compared to agricultural and Manual labour workers and about 67.5% belongs to 20-39 years of age group. And maximum about 38.3% of Incisional hernia happened following LSCS and about 70% of Incisional hernia appeared within one year of previous surgery followed by 26% between 1-5 years. Regarding the history of post operative complications wound infection occupies the major place (62.5%) followed by seroma (12.5%) and post operative cough (12.5%).*
Keyords: *Incisional hernia, LSCS (Lower Segment Caesarean Section), House wives.*

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I. Introduction

Incisional hernia is a common surgical problem, an uncommon sequel of surgical interventions and is the result of failure of facial tissues to heal and close following Laparotomy. The highest incidence of such hernias can result with midline and transverse abdominal wall incisions[1]. Several studies have shown that Incisional hernias have different etiologies of which some are related to the patient[2], the surgical technique[3], the sutural material[4] surgical hygiene and the experience of the surgeon[5]. As the approximated fascial tissue separates, the bowel and omentum herniates through the opening covered by a peritoneal sac. The hernias can increase in size to enormous proportions and giant ventral hernias can contain a significant amount of small or large bowel which is an important source of morbidity. The higher incidence of abdominal Incisional hernia is being observed among the younger and middle aged female population because of happening of higher rate of caesarean sections[6, 7] as the commonest mode of safe delivery being practiced more in private health set up in

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21st century. A considerable proportion of Patients with incarceration and strangulation require emergency abdominal surgery. Others may need to alter their life style to give up gainful employment. Although a wide spectrum of surgical techniques have been developed and recommended ranging from sutured techniques to the use of various types of prosthetic meshes with the advancement of introduction of laparoscopic approach (1990), the Primary surgical repair (Approximation of edges of fasicial defect by sutures without mesh) has been widely used as the main mode of surgical repair[8]

II. Material & Methodology

The study was undertaken in the department of General Surgery, Government General Hospital, Guntur, during the period 01-08-2015 to 31-10-2016. As the overall admission rate of Incisional hernia into hospital is very less, I have calculated the sample size by allowing all the female incisional hernia patients admitted in the hospital for repair during entire one year period (120) into study. Accordingly all these 120 patients chosen were included as study subjects after taking the informed consent. They were interviewed by using a pre-tested proforma including information about their profiles like age and occupation and history pertaining to type & complications of preceding surgery and duration of time between preceding surgery & development of Incisional hernia etc. The collected data was analysed by applying statistical techniques like percentages, proportions and chi-square test with the help of computer software. The results were discussed in the light of published material of various authors and conclusions and recommendations were made after the detailed study of results.

III. Results

Table 1 Age & Occupation wise distribution of study subjects

SI.No.	Age in Years	Occupation Agricultural workers	House wives	Manual Labour workers	Total	P-Value
1.	20-29	3	18	1	22	P<0.001
2.	30-39	6	36	3	45	
3.	40-49	8	23	5	36	
4.	50-59	3	6	3	12	
5.	60-69	0	3	2	5	
Total		20 (16.6%)	86 (71.6%)	14 (11.6%)	120 (100%)	

M ± 2 SE = 38.9 ± 1.82

- Most of the study subjects were house wives and belongs to 3rd & 4th decades of life

Table 2 Type of preceding surgery among study subjects

SI.No.	Preceding surgery	Number	Percentage
1.	LSCS	46	38.3%
2.	Hysterectomy	26	21.7%
3.	Tubectomy	10	8.3%
4.	Laparotomies	24	20%
5.	Incisional Hernia	8	6.7%
6.	Cholecystectomy	6	5%
Total		120	100%

- It is observed that out of total female study subjects about maximum 38.3% of Incisional hernia happened following LSCS, followed by 21.7% Hysterectomy and 20% Laparotomies etc

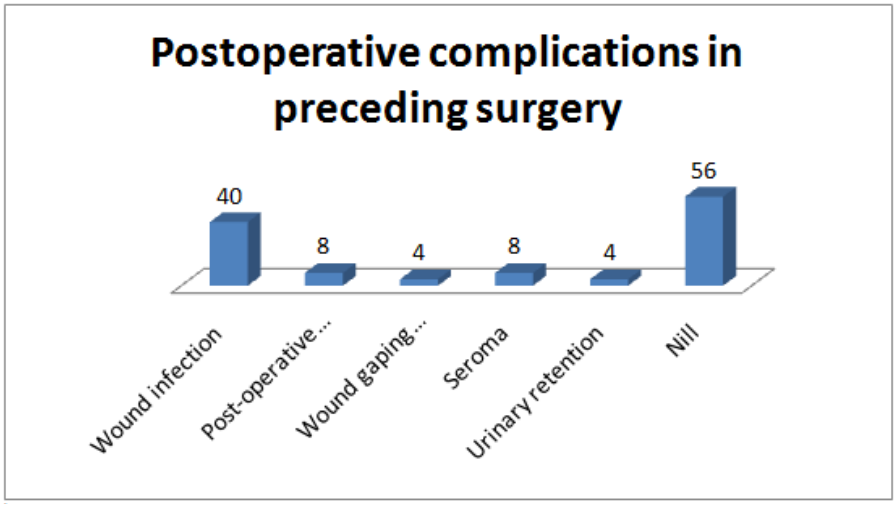
Table 3 Time duration of occurrence of Incisional hernia following surgery

SI.No.	Duration of Hernia following surgery	Number	Percentage
1.	Less than 6 months	48	40%
2.	7-12 Months	36	30%
3.	1-2 Years	10	8%
4.	2-5 Years	22	18%
5.	More than 5 years	4	4%
Total		120	100%

- About 70% of Incisional hernia appeared within one year of previous surgery followed by 26% between 1-5 years.

Table 4 Post operative complications in preceding surgery

SI.No.	Type of Complication	Number	Percentage
1.	Wound infection	40	62.5%
2.	Post-operative cough	8	12.5%
3.	Wound gaping and disruption	4	6.25%
4.	Seroma	8	12.5%
5.	Urinary retention	4	6.25%
6.	Nill	56	---
Total		120	100%



- Regarding H/o post operative complications in preceding surgery wound infection occupied the major place i.e. 62.5% followed by seroma 12.5% post operative cough 12.5% and wound gapping & disruption accounts for 6.25%.

IV. Discussion

In the present study the youngest patient was 25 years old and the oldest being 69 years with the mean age of 38.9 years. And most of the cases of Incisional hernia had reported in 3rd and 4th decade of life because most of the study subjects were house wives who underwent caesarean sections, mild to moderate obese and due to decreased physical activity & weak abdominal musculature when compared to agricultural and manual labour workers. But Carlson et all[9] found that many patients with Incisional hernia were between 25 and 90 years with the mean 60.3 years. And the other causes for lesser age occurrence in our study were early marriages, multiple pregnancies, lack of awareness regarding post partum exercises, lack of postoperative rest and early return to work etc. With reference to type of preceding surgery, it was observed that maximum about 38.3% of Incisional hernia happed following LSCS (Lower Segment Caesarean section), followed by 21.7% Hysterectomy, 20% Laparotomies and 8% Tubectomies etc which closely correlates with the figures of Guel TC, Dubey PC et all[10] study. And in our study about 16% were noted to be obese as against Bucknall TE et all[1] and Regand et all[11] studies 35% and 29% respectively.

It was observed that about 6% were reported with recurrence of Incisional hernia of which 3% following LSCS, 2% following Laparotomies and 1% fallowing hysterectomy. The increased occurrence following LSCS can be attributed to majority of these surgeries being performed on emergency basis. Tubectomies leading to Incisional hernia can be mainly attributed to the mass campaigns by the National Family Welfare Programme where strict aseptic precautions cannot be taken and meticulous operative details cannot be attended properly. In the present study 70% of Incisional hernia appeared within one year of previous surgery, 26% between 1-5 years and about 4% more than 5 years after preceding operation when compared to Mudge and Hughes et all[12] study 56% within one year and 35% after more than 5 years. Related to History of postoperative complications in preceding surgery (primary Surgery) in this study, wound infection occupied the major place (62.5%) which correlates with the figures of Bucknall TE et all[1] study (48.8%) Larson et all[13] study (35.85%), Ellis and colleagues et all[14] study (35.85%) and Bose et all[15] study (53.63%). And wound infection is commonly cited as the most important risk factor for development of Incisional hernia [3.16, 17, 18]. Therefore elimination of wound infection is an important concept to lower the incidence of Incisional hernia.

V. Conclusions & Recommendations

As the caesarean section operations among which many were happened in private health setup has occupied the major place in the type of preceding surgery in these Incisional hernia patients and also which indirectly contributes as a causative factor for their economic loss at this age (30-50years) which alarms us to take steps to control the injudicious happening of caesarean sections for not having definite indication for surgery. It was observed that among the study group who developed postoperative Complications in preceding surgery (primary surgery), wound infection occupies major account (62.5%) which leads to delayed wound healing and causes formation of widened week scar thus plays a major role in later development of incisional hernia. Therefore it is very important to maintain proper hygienic, aseptic sterilized environment during preoperative, operative and postoperative procedures in all the hospitals and ensure proper functioning of hospital infection control committees.

As the problem is more among housewives, health education & counselling procedures should be focused on prevention of early marriages, promotion of regular physical activity, control of multiple pregnancies, advice regarding Postoperative rest & early return to work and importance of post- partum exercises etc.

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