Original Article

The Long Term Pain Morbidity After Pfannenstiel Incision

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Abstract

Background: Chronic pain is a well-known adverse effect of surgery and apparently, its risk increases with increasing number of surgeries. However, the risk of such a long term pain morbidity specifically after Pfannenstiel incision, which is used in most of the obstetrics and gynecological surgery, is less established.

Objective: To identify the prevalence of the long term pain morbidity in women after Pfannenstiel incision.

Methodology: This descriptive study was conducted at Gulab Devi teaching hospital Lahore from June 2018 to October 2018. Two hundred and fifty women having Pfannenstiel incision for caesarean section, total abdominal hysterectomy or laparotomy, were asked to fill in a questionnaire to evaluate the pain in the Pfannenstiel region.

Results: Almost 98% responded to the questionnaire (n=245 out of 250 women). A significant number (23%) of women complained of long-standing pain at the site of the incision. Though only a few of them went through moderate or severe pain which marred their daily activities.

Conclusion: The Pfannenstiel surgery either for emergency caesarean sections or elective obstetric and gynecological procedures is a primal indicator of long term pain and discomfort. A doctor's anticipation and recognition of this phenomenon would be the pivotal factor in improving future surgical practices.

Key Words: Pfannenstiel incision, long term pain, hysterectomy, caesarean section.

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Introduction

For long, chronic post-surgical pain has been overlooked and not given the importance it deserves. Though chronic pain has been seen time and again to go hand in hand with gynaecological disorders[1], to what extent do gynaecological procedures themselves contribute to it is a question that remains unanswered.

A Pfannenstiel approach is mostly used for secure access in pelvic surgery like in caesarean sections (CS) and in gynaecological procedures[2]. Pfannenstiel incision has been appreciated the world over for its reduction in incisional hernias (0-2%) and ingratiating outlook ever since it was introduced in 1900.Granted it has its advantages but it would be unwise to overlook its demerits, for it has been brought to view that the surgery itself carries a bigger risk of long lasting pain.[3] The risk of significant pain is approximated to be 7%.[4] In a study by Loos, M.J et al in 2008[5], such women with

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significant scar pain were asked to undergo a physical examination. Nonetheless, it was surprising to know that nearly half of these women were diagnosed with nerve entrapment and the anesthetic blocks were diagnostic as well as therapeutic.[6]

A bird's eye view of the recent studies tells us that the type of surgery, pre-operative pain, and acute postoperative pain along with much psychosocial and genetic factors are the risk factors.[7] That is why it is of primary importance to identify the prevalence and the risk factors contributing to chronic post-surgical pain by only knowing these risk factors we can ever get to our objective of preventing the pain. The aim of the study to identify the prevalence of long term pain morbidity in women after Pfannenstiel incision.

Methodology

The ethical approval from hospital Ethical committee was taken before conducting the study. Informed verbal consent was taken from all patients for inclusion before they participated in this study. From 28th June 2018 to 14th October 2018, 250 women having Pfannenstiel incision were recruited.

In our study, we kept the standard definition of chronic pain, which states: 'Pain persisting more than the normal healing time of tissues (which is usually presumed as 3 months)'. So, this standard allows us to consider the women suffering from chronic post-surgical pain 1 year after caesarean section, hysterectomy or laparotomy.

Our eligibility criterion went like this: adult woman, 18 years of age or older, underwent caesarean section, total abdominal hysterectomy/or laparotomy, with Pfannenstiel incision performed at any setup. Those who had Pfannenstiel incisions in the year 2018-2019 were not included because a minimum time of 12 months was considered intrinsic to our research.

The dependent variable was the presence of long term pain. While the age of woman, number of Pfannenstiel incisions especially cesarean sections, follow-up period, tingling or numbness served as the independent variables.

Each patient who met the criterion was asked to fill in a simple but a structured questionnaire which included the information like the occurrence of pain originating in relation to their previous incision site and to classify its degree of severity. It also included the pain related to menstruation, aggravating & relieving factors, and attempts of seeking help, prescription and their efficacy.

Results

Out of 250 women, n=245 responded (98 %) but n=5 did not respond. Among all, more than 90% women had cesarean section and were obviously much younger to the total abdominal hysterectomy patients (15-35 years old compared with 50 years). All patients had surgery through Pfannenstiel incision. Out of all respondents (n=245), 23% (n=56) women were positive for chronic pain following Pfannenstiel incision.

At the incision site, more than 90% of women (220 out of 245) had some degree of discomfort. However, the site of discomfort was indicated more at the corners of the scar. The pain of moderate to the severe degree was notified only by 3 women (6.0%).

All the women having history of a significant degree of pain leading to functional impairment were selected for long term follow up. The long-standing pain had impaired their quality of lives. The women likely to have nerve entrapment pain were found using analgesics in the form of oral medication e.g Paracetamol and/ or NSAID or had tried herbal, homeopathic or physiotherapy measures. <3% had a menstrual exacerbation of pain. Though the diffuse vague scar pain was not an uncommon finding. However, we could not find incisional hernia in any of our operated women. The women (n=7) complained of nagging pain mostly in the center of the scar was thought of muscular in origin. In some women (n=3), keloid formation led to tingling pain. It was an interesting observation that the women tended to have vague issues like generalized body aches, backache or bad moods, likely to complain of chronic post-surgical pain at scar too.

Table I: Review of the cases studied

	Sample size	**%**
Total number of cases	n=250	100
Respondents	245	98
Non-respondents	5	2
Post Caesarean	225	90
Post Hysterectomy/Laparotomy	25	10

Table II: Clinical presentations of the long-standing pain in study group.		
Clinical presentation of pain	**n=56**	**%**
Neuropathic	3	6.0
Non-neuropathic type pain		
Diffuse scar pain	25	44.5
Musculotendinous	7	13.3
Pain in keloid	3	4.3
Abdominal wall atrophy with bulging	1	2.1
Numbness	16	27.7
Dysmenorrhea	1	2.1

Discussion

In our research work, we found a significant prevalence (23%) of long term post-Pfannenstiel pain in operated women. The period included was 1 year after the cesarean sections or the gynecologic procedure.

The risk factors that showcased in the study by Katz J, Seltzer Z. in 2009[8] were mainly linked to preoperative status. An authentic risk factor that recognized was the preoperative pelvic pain. Macrae WA et al 2008[9] proved in their study that prior pelvic surgery, including prior caesarean deliveries, had an enhanced chance of long-standing post-surgical pain morbidity. The mechanism behind this was demonstrated as physiological and psychosocial. If we discuss hysterectomy, it was surprisingly shown by Ducic I, Moxley M et al 2006 [10] that the type of surgical method did not have much effect on long term pain risk. It would be good to mention that there is a greater tendency towards less chronic pain in vaginal hysterectomy as compared to a total abdominal one. Fascinatingly, it was also observed that CS under general anaesthesia, had higher frequency of chronic pain in contrast to spinal anaesthesia. (Sng BL, Sia AT et al 2009)[11]

Another study by Liu TT, Raju A 2013[12] related to Pfannenstiel incision morbidity (93% of 221 cesarean section patients), noted a 12.3% had scar pain after a one-year follow-up. Likewise, in a study by Finnerup NB et al 2010[13], long lasting pain was found in 21.8% of patients, 5 years after a Pfannenstiel incision, but the severity was not detailed (n=243). Results of these studies and our study brought forth the fact that the long term post-Pfannenstiel morbidity is common, even if a lot of time has passed since the procedure. However, many women acquiesced to this pain and only few tried to seek medical advice.[14]

Let us ponder over the question that why do it happen to some women to a severe degree while for others it is negligible? Some researchers blame incision length to instigate long term morbidity[15]. Since the scar length may involve the excess tissue & nerves to start this pain phenomenon. However, our research data could not only confirm this assumption, but nearly 70% of women complained of pain at the corners of scar, which is a clear display of the significance of lateral borders in pain etiology.

Repeated surgeries lead to fibrosis hence the nerve involvement to generate severe localized pain[16]. Similarly, emergency surgery, along with creating other long term morbidities, has an added risk of long-lasting pain as compared to the scheduled procedures. The preoperative and the intraoperative factors are consequential for the development of chronic pain perhaps together with genetic and pyscho-social factors.[17]So a person may conjecture that if long-lasting morbidity can correlate so seriously to the surgical techniques, then one may keep on reviewing one's surgical techniques to achieve the long term patient satisfaction. (De Kock et al 2009)[18]

Our study exhibited that long term pain is common after a Pfannenstiel incision. Though we had a small sample size and we did not consider the preoperative health or pre-existing pain status of the subjects. Our results can be thought valid since 98% of our subjects participated to our research query. Even if we reckon that all the non-responders are not having such complaint but still the incidence of positive cases is significant i.e. 23 % (n=45 out of 196) and out of which 6.0% (n=3) had pain that affected their everyday life. The strength of our study is that we could acknowledge the complaint of the patient effectively by finding a significant figure of positive cases which might help to improve the affective domain of doctors. Moreover, one can plan further research work based on the factors which can be connected to this long term postoperative pain development. The weakness of the study is that we had not considered variations like suture material, length of incision, wound infection etc.

Similarly, the contributing factors or surgical techniques could not be studied since we had no control group.

So, it has to be said that chronic pain after a Pfannenstiel incision has already been studied by various researchers like Tosun K[19], Kainu JP, Sarvela J [20] and many more but our work exhibits a small contribution to this observation in our local population of inside Lahore and its suburbs. Our study had opened new horizons to us to explore and many more abstruse questions to resolve. An inquisitive mind may focus the future research on demonstrating the correlation of preoperative status, stress, surgical techniques and the woman's general wellbeing along with her mental status in this regard.

Conclusion

It has been brought to light that the Pfannenstiel incision either for emergency caesarean sections or elective obstetric and gynecological procedures is a primal indicator of long term pain and discomfort. A doctor's anticipation and recognition of this phenomenon would be the pivotal factor in improving future surgical practices.

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