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Prolene Mesh and Surgical Site Infection: A Retrospective Study

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ABSTRACT

Hernia is a viscous or a part of viscous that protrudes through a weakness or abdominal opening in the wall of its containing cavity. Ever since Usher published his technique of mesh repair for hernia in 1958, mesh repair has become the long standing method of choice. In this study, our aim was to compare the occurrence of surgical site infection (SSI) post hernioplasty specifically using a prolene mesh in a population of 100 patients to find out the correlation between prolene mesh and SSI.

Keywords: prolene mesh, SSI, hernioplasty

INTRODUCTION

Hernia is a protrusion of viscous or a part of a viscous through a weakness or abdominal opening in the wall of its containing cavity. It may be congenital or an acquired defect most often due to failure of structures due to obesity, disease, muscle weakness etc. Usher first published hernia repair using a polypropylene mesh which later led to Lichtenstein repair 30 years later. In India, on an average, the incidence of hernia is 15-20%.

Risk factors for development of SSI post hernioplasty are [1]: Type of procedure performed (open or laparoscopic)
Type of hernia (paraumbilical, inguinal, umbilical) Comorbidities (especially insulin dependent diabetes mellitus)

MATERIALS & METHODS

We decided to study the incidence of SSI retrospectively. In this study we decided to include patients who underwent hernioplasty with prolene mesh for umbilical, inguinal, and paraumbilical hernia. We decided to include both male and female patients in this study. Their consent was taken and all personal information about the patients was kept anonymous. We decided to compare the incidence by including subsequent follow-ups by the patient. We applied Fischer Exact test and figured out the p value which turned out to be <0.0020 which showed significant relationship and proved our hypothesis of lower incidence of SSI post hernioplasty with prolene mesh, considering the fact that these patients showed up for follow up post hernioplasty. Our study, however, didn't find any correlation between gender and development of SSI. The p value in this case turned out to be 1.

RESULT & DISCUSSION

	No SSI	Developed SSI	P value	Total
Patients who showed up for follow up	91(86.45%)	4(3.8%)	0.002032(S)	95
Patients who failed to show up for follow up	2(0.1%)	3(0.15%)		5
Total	93	7		100

	Did not develop SSI	Did develop SSI	P value	Total
Female	31(10.23%)	2(0.66%)	1 (NS)	33
Male	64(42.488%)	3(2.01%)		67
Total	95	5		100

A few papers have been published to study the correlation between mesh and SSI. A study done by Christou, N., Ris, F., Naumann, D. et al. did a prospective study on the incidence of SSI and didn't find a significant relationship between the type of mesh used and SSI. [2]

A study done by Shuzo Kohno et al, discovered there was no correlation between mesh use and SSI in cases that did not require emergency incarceration repair. [3] NTM infection (especially Mf infection) should be suspected in SSI with a slow postoperative appearance, poor response to empirical antibiotics, conservative or surgical treatment, and a negative general bacterial culture[4].

CONCLUSION

This study showed a significant correlation between prolene mesh and SSI and lower incidence in the same, as long as patients showed up for subsequent follow ups post hernioplasty.

Declaration by Authors

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