

Study of Post Surgical Site of Abdominal Infections in Andhra Pradesh Population

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ABSTRACT

Out of 198 abdominal surgeries in adult patients (111 males and 87 females) 16(8%) patients had infections at surgical site, 3(18.7%) were cholecystectomy, 3(18.7%) were appendectomy, 3(18.7%) had umbilical hernia repair, 2 (12.5%) had hepatectomy, 2(12.5%) had vagotomy, 3(18.7%) had post-KUB surgeries. History of the these patients was 5(31.2%) were Diabetes mellitus (D.M), 2(12.5%) were smokers, 2(12.5%) were anemic, 4(25%) were obese, 3(18.7%) were malnourished. The organisms at the post surgical infected site were 9(56.2%) E.Coli, 4(25%) had staphylococcus, 3(18.7%) had klebsiella. This surgical site infections at different surgeries will lead to many risk factors & end into morbidity and mortalities if not treated with suitable antibiotics. This study will be quite useful to surgeons, pathologist and microbiologist to treat the wounds before leading into secondary infections.

Keywords:- DM- Diabetes Mellitus, KUB- Kidney Urinary Bladder infections, SSI- Surgical site infection.

INTRODUCTION

Post surgical site infections are major problems to the surgeons⁽¹⁾. Although many advances have been made in infection control practices including improved operating room ventilation, sterilization methods, barriers, surgical techniques and availability of antimicrobial prophylaxis, the surgical site infections remain a substantial cause of morbidity, prolonged hospitalization, and death. The mortality rate due to surgical site infection is (3%) and 7.5% surgical site infection (SSI), associated deaths are directly attributed to the SSI⁽²⁾. Globally CDC and health care associated infections reported that 31% SSI were observed among hospitalized patients⁽³⁾⁽⁴⁾. This surveillance of SSI is a vital step as it provides an insight into the magnitude of problems helps to concerned authorities to take preventive majors and precautionary steps pre and post surgically to avoid morbidity, prolonged hospital stay and morality which

leads to economic burden to the patients at the cost of reputations of medical institutes.

MATERIAL AND METHOD

198 patients of both sexes (111 males and 87 females) of different age group admitted in the General Surgery ward, GSL medical college hospital, Rajahmundry—533296, Andhra Pradesh, for different abdominal surgeries viz cholecystectomy, appendectomy, umbilical hernia repair, hepatectomy, vagotomy and KUB surgeries. Out of 198 patients 16 patients got infected at surgical site, their infection was studied with culture and sensitivity, causative organisms were identified and treated with appropriate antibiotics, moreover the history of post surgically infected patients was also noted to avoid predicted risk factors. Their hematological investigations, radiological examination of abdomen was carried out to rule out any secondary infections. The duration of this study was about four years (2014 to 2018).

OBSERVATION AND RESULTS

Table-1 Names of the post surgical site infections 3(18.7%) cholecystectomy, 3(18.7%) appendectomy, 3(18.7%) umbilical hernia repair, 2(12.5%) hepatectomy

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, 2(12.5%) vagotomy ,3(18.7%) post KUB surgeries.

Table-2 History of patients of post surgical site infected, 5(31.2%) DM, 2(12.5%) smokers, 2 (12.5%) Anemic, 4(25%) were obese, 3(18.7%) were malnourished.

Table-3 Study of prevalence of organism in the site of post surgical infection 9(56.2%) were E.coli, 4(25%) were staphylococcus, 3(18.7%) were klebsiella .

Table-4 Percentage of infection rate was compared with previous studies.

DISCUSSION

The present study of infections in Andhra Pradesh populations 16(8%) of 198 abdominal surgeries, 3(18.7%) were cholecystectomy, 3(18.7%) appendectomy, 3(18.7%) umbilical hernia repair, 2(12.5%) hepatectomy, 2(12.5%) were vagotomy ,3(18.7%) post surgery of KUB (Table-1). History of post surgical site infected patients were 5(31.2%) were DM, 2(12.5%) were smokers, 2(12.5%) were anemic, 4(25%) were obese , 3(18.7%) were malnourished (Table-2). The organism observed in the surgical site infection were 9(56.2%) E.coli, 4(25%) staphylococcus, 3(18.7%) were klebsiella (Table-3). These obtained values were more or less in agreement with previous studies ⁽⁵⁾⁽⁶⁾⁽⁷⁾.

Beside harming the patients, these infections of surgical site can affect nurses, physicians, aides, visitors, custodian and anyone who has contact with hospital⁽⁸⁾. Apart from the reduced immunity status of the patients the rates of post operative surgical site infections were higher (17.5%) among the patients who were operated by the junior surgeons with lesser experiences⁽⁹⁾. It was also observed that emergency surgeries had lower rates of SSI than elective surgeries (8.7%). while elective surgeries had SSI rates were (13.1%)⁽¹⁰⁾. The probable reason could be prolonged stay at hospital after elective surgeries due to old age and post surgical weakness recovery. Hence exposure to hospital environment may aggravate the SSI. While in emergency operations the stay of patients in hospital would be of shorter duration compared to elective surgeries.

SUMMARY AND CONCLUSION

The present study of post surgical site of abdominal infection in Andhra Pradesh population will certainly introspect the surgeons, nurses, aids and hospital

authorities to take preventive and precautionary steps before and after surgery which may present the risk of morbidity and mortality. This study demands further patho-physiological, microbiological, genetic, nutritional, and immunological study because little is known about mechanism, duration process and magnitude of infections caused by different organisms.

This research is approved by ethical committee of GSL medical college and hospital ,Rajahmundry – 533296 (Andhra Pradesh)

Table-1: Post surgical site infections

Sl. no	Types of Operation	No of patients	Percentage (%)
1	Cholecystectomy	3	18.7
2	Appendectomy	3	18.7
3	Umbilical Hernia repair	3	18.7
4	Hepatectomy	2	12.5
5	Vagotomy	2	12.5
6	KUB surgeries	3	18.7

KUB= Kidney Urinary Bladder

Table-2: History of the patients of Post surgical infected

Sl. no	Particular	No of patients	Percentage (%)
1	DM	5	31.2
2	Smokers	2	12.5
3	Anemia	2	12.5
4	Obesity	4	2.5
5	Malnutrition	3	18.7

Table -3: Study of prevalence of organism

Sl .no	Name of the Organism	No of patients	Percentage (%)
1	E.Coli	9	56.2
2	Staphylococcus	4	25
3	Klebsiella	3	18.7

Table-4: Comparison with previous studies of surgical site infections

Sl. no	Name of the workers and Year	Percentage (%) of Infection rate
1	Sabia Bibi et.al (2009)	7.3
2	Satya Narayan(2010)	2
3	Anand Saxena (2013)	14
4	Manisha Dhamecha (2014)	4.25
5	Dhodia. JP & Sandeep Rao (2018)	7.9
6	Narasingha Rao Bandaru (2012)	17.5
7	Present study	8

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REFERENCES

- Emori T.G. Goymes R.P- A overview of nasocomial infections including the role of microbiology laboratory clin. Microbial Rev.1993 6(4), 428-442
- Maragaret, A Oslen. Jaffeny J - Risk factors for surgical site infections following orthopedic spinal operations. J Bone, joint surgery. Am 2008, 90,62-9
- Alicaj Mangran - Guide lines for prevention of surgical site infection. Infect control and Hospital Epi 1999, 20(4) 247-78.
- Narasinga Rao, Bandaru Ranga Rao - Prospective study of post operative wound infections in a teaching hospital of rural set up J.ap clin and Diagnostic Research ,2012. 6 (7).1266-71
- Lichtenstern C Schmidt J – Post Operative bacterial/fungal infections. A challenging problem in critically ill- patients after abdominal surgery Dig. Surg. 2007, 24, 1-11
- Collier. M- Recognition and management of infections, worldwide can/2004/ January/ collier/ management of wound infection. Html viewed on 7-10-2018
- Shojoei H, Borjian S – surveillance of clean surgical procedures. An indicator to establish a baseline of a hospital infection problem in a developing country Iran. Ind. J. Surg.2006, 68 (2), 89-92
- PreScott. Harley and Klein – Microbiology 5th edition 2002, 848-69, Mc Graw- Hill Co. publication
- Freitas PF campos ML – wound infections after pre-operative depilatory versus razor preparations. Am- J. Surg. 2005, 5 (2), 1-5
- Barowolf S. Sohrd – Reduction of surgical site infections after caesarian delivery using surveillance J of Hosp inf. 2006, 64, 156-61.