A Study on Role of Follow up in Minor Surgical Procedures

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ABSTRACT

Background: Minor surgical procedures are surgeries that can be performed in the clinic under local anesthesia and doesn't require preoperative and postoperative admission. In most of the institutions in our country, we advised patients to follow up within 7 to 10 days following minor surgical procedures. Unnecessary follow up increases stress to the patients in terms of not being able to manage daily routine work and would be costly as well. As a General Practitioner, majority of the cases done are the minor surgical procedures.

Methods: The study was a prospective cross sectional study conductedin General Surgery Department at United Mission Hospital, Palpa from Dec 2013 to May 2013. 228 patientswere divided in two groups of "No follow up" group and "Follow up" group.No Follow up Group was asked pre-formed questionnaires by telephone where as Follow upgroup wereasked to follow up routinely on day 7 to 10 days of surgery and asked the same questions.Statistical analysis was done using SPSS program and Microsoft excel. P value of <0.05 was considered statistically significant. P-value was determined by using Chi Square test.

Result: The overall wound infection among 228 patients was found to be 14.5 percent with infection rate of 16.4 percent in No Follow up group and 12.7 percent in Follow up group.The infection rate was found to be higher among the older age group of patient maximum being 36.4% in the age group of 50-59 years with p value of 0.053. Other risk factors like age, sex, residence, duration of surgery, socio economic status, history of medical illnessand BMI didn't have significant association with rate of infection following minor surgical procedure.

Conclusion: The routine postoperative follow up in minor surgery is unnecessary unless there are any signs suggestive of infection.

Keywords: *Minor surgery, Postoperative infection.*

INTRODUCTION

Minor surgery is defined as a set of procedures in which short surgical techniques areapplied on superficial tissues under local anesthesia. There is no need of respiratory assistance or general anesthesia and pre or post procedure hospital admission[1]. Lesions and problems requiring these procedures for diagnostic or therapeutic reasons are frequently seen by General Practitioners both in the outpatient setting as well as in the emergency care setting. It is common practice to ask patients for follow up within one week for detecting any postoperativecomplications, which is minimal in case of minor surgical procedures.

One of the important complications that are found following surgery is Surgical Site Infection. It is defined as the discharge of pus or fluid from which pathogen can be cultured, sometimes with spreading erythema. Most surgical site infections are superficial involving skin or subcutaneous tissue. The cause of infection is related to exposure to external source of bacteria or endogenous source from patient's own flora. The adequate period of follow up for assessment of surgical site infection rate is around 6 weeks. The median time of wound infection is 7 days to 10 days however the spreading cellulitis caused by Beta hemolytic streptococci may be seen 3days to 4 days of surgery[2].

Minor surgery was defined as elective invasive surgical procedures routinely requiring local anesthesia and some postoperative observation. The patient arrived at the hospital on the day of surgery and discharged to home on the same day. Postoperative infection was defined as discharge of pus or fluid and or erythema from surgical wound within 7 to 10 days surgery. Patient having residence in V.D.C. was defined as from rural setting and patient from municipality were defined as from urban setting. In rural setting of our country,the health institutions that provide these services are not easily accessible to all either due to distance or lack of money, so it is not feasible for most of the patient to come for follow up after any surgery. To come for follow up in a country with minimum daily wages of NRs. 2313 and per capita income of US$ 22604, it is not always possible financially. Patient with per capita income per year of Rs.19261 were kept under the lower socio economic status and patient with per capita income per year of more than Rs.19261 in middle socio economic strata according to the economic survey 2011/2012.

METHODOLOGY

This was prospective study conducted over a period of four monthsfrom December 2013 to May 2014 in the Department of General surgery, United Mission Hospital, Palpa. All patients that visited the surgical clinic or emergency room were evaluated and were scheduled for minor surgery on the same day if required. Any patients that needed minor surgery but were admitted already in the ward were excluded from the study. Any patient that needed intravenous anesthesia or sedation during surgery was excluded from the study. Consent was taken from all patients that underwent surgery. After the procedure they were explained about the possible complications, the precautions needed, dressing of the wound if required which they could do at home or nearby health post and the day of removal of suture applied. NSAID was routinely given after surgery as postoperative analgesics.

Patients who underwent surgery on Sunday, Monday and Tuesday were taken as "No Follow Up" group. They were counseled about no need of routine post operative follow up but they could come to hospital or go to nearby health center if required and will be called by telephone on day 7thto 10th day of surgery and will be asked questions regarding the surgical wound. Another group of patients who underwent surgery on Thursday and Friday were taken as "Follow up" group and were asked same questions on their routine follow up on day 7 to 10. Patients from first group were contacted on 7 to10th days of surgery by telephone, asked pre formed questionnaires. The other group of patients was asked the same questions on their routine follow up. Data were entered into the Performa and analyzed with statistical program for social science (SPSS). Correlation between two were

analyzed with chi square test. P value of less than 0.05 was considered as significant.

RESULTS

In total 115 cases were included in "No follow-up" group and 127 were included in "Follow-up" group. Five from "No follow-up" group and 9 from "Follow-up" group were lost to contact respectively; hence 118 and 110 patients were included in the respective group in the final study. The study included 127(55.7%) males and 101(44.2%) females. The most number of cases were of cyst 68(29.8%) and excision of cyst was the most common procedure done.

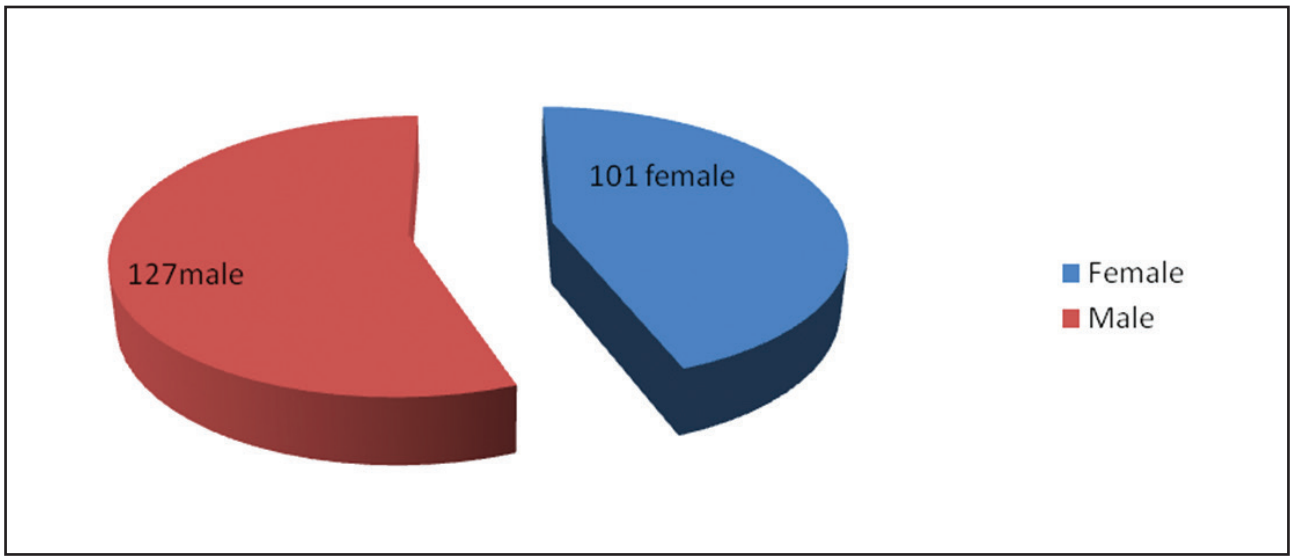

Figure 1: Sex-wise distribution of the patient

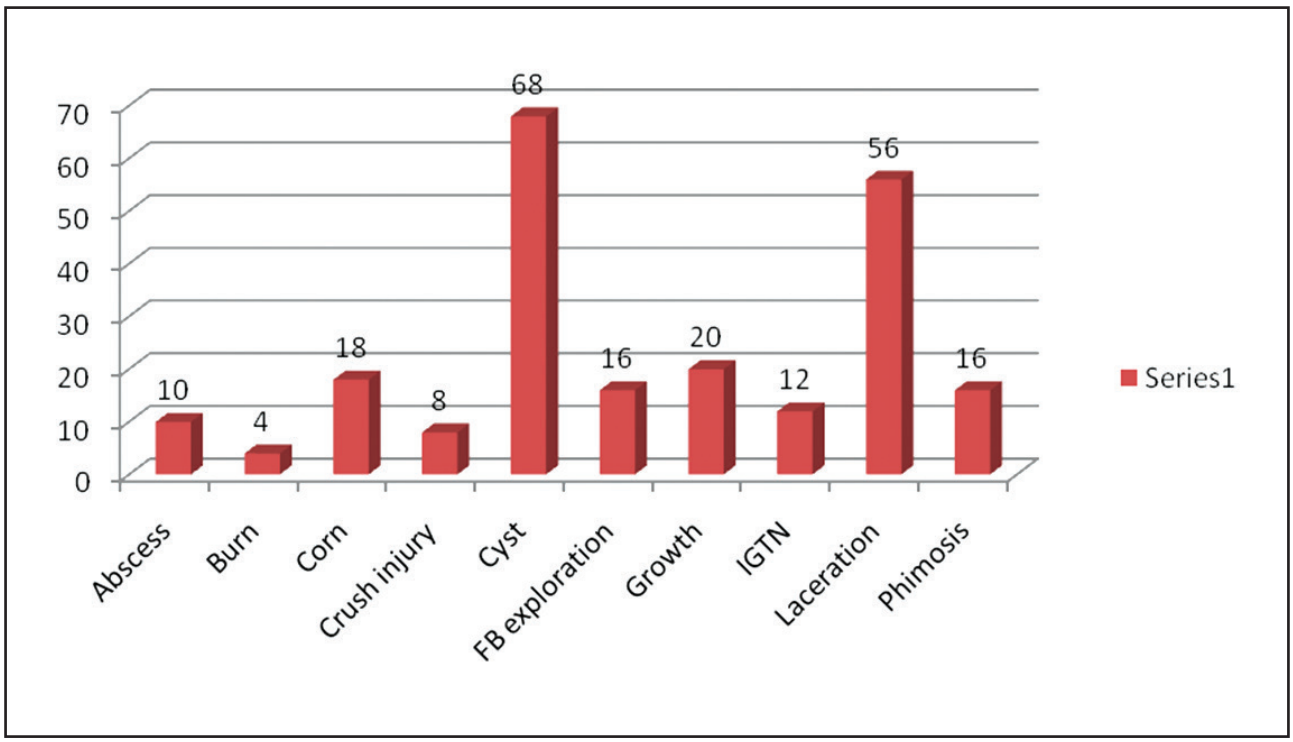

Figure 2: Diagnosis of the patient.

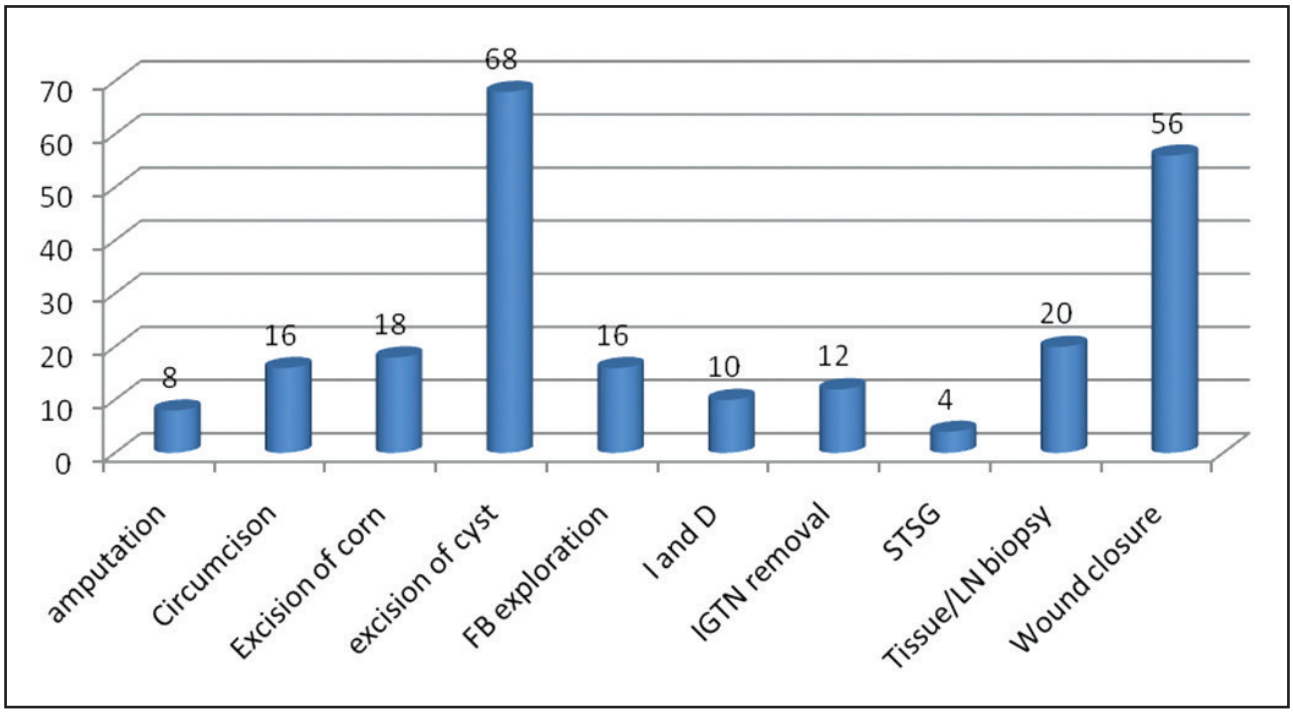

Figure 3: Minor surgeries performed during the study.

Table 1: Cross tabulation of study population and infection rate

Study variables		Infection		Total	P value <0.05
		No	Yes		
Follow up	No	92(83.6%)	18(16.4%)	110	0.434
	Yes	103(87.3%)	15(12.7%)	118	
Gender	Male	86(85.1%)	15(14.9%)	101	0.885
	Female	109(85.8%)	18(14.2%)	127	
Time duration of procedure	30 min or less	86(88.7%)	11(11.3%)	97	0.247
	More than 30 mins	109(83.2%)	22(16.8%%)	131	
BMI	Normal	125(84.5%)	23(15.5%)	148	0.533
	High	70(87.5%)	10(12.5%)	80	
History of medical illness	No	154(87.5%)	22(12.5%)	176	0.119
	Yes	41(78.8%)	11(21.2%)	52	
Place of residence	Rural	114(83.2%)	23(16.8%)	137	0.223
	Urban	81(89%)	10(11%)	91	
Socioeconomic status	Lower	81(81%)	19(19%)	100	0.086
	Middle	114(89.1%)	14(10.9%)	128	
Age (years)	<20	34(82.9%)	7(17.1%)	41	0.053
	20-29	43(89.6%)	5(10.4%)	48	
	30-39	46(93.9%)	3(6.1%)	49	
	40-49	36(85.7%)	6(14.3%)	42	
	50-59	14(63.6%)	8(36.4%)	22	
	60-69	14(87.5%)	2(12.5%)	16	
	70-79	8(80%)	2(20%)	10	

DISCUSSION

In our study, the total infection rate was found to be 14.5%, which was high, compared to other studies by Engbaek[10] and Majholm[11] which was much lower. The infection rate in No follow up group was 16.4% and Follow up group was 12.7%. However it was not statistically significant with p value of 0.434. Since planned follow up didn't result in better outcome of the procedure, it was better to avoid unnecessary follow-up. The study by Bailey[16] and Gurjar[17] also notated the similar conclusion.

In our study, 78.9% patient were below age 50 years, however the infection rate was highest among patient above 50 years age group. The infection rate was 36.4% in the age group of 50-59yrs was 36.4%, 12.5% in the age group 60-69 years and 20.0% in age group 70-79 years suggesting that infection rate increased in old age however it was not statistically significant with the p value of 0.053. The infection rate was almost equal in both the gender and there was also no significant difference with p value of 0.885. The results were similar to study by Heal[21] and Ahmed[22].

Contrary to the studybyGoyal[23], the infection rate in the procedures that took less than 30 min was 16.8% compared to the procedures that took more than 30 min, which was 11.3%. However it was not statistically significant with p value of 0.247. The infection rate was also high among patient from rural setting which was 16.8% compared to patient from urban setting which was 11.0%, similar to study by Goyal[23], however there was no significant association between the infection rate and the rural settingwith p value of 0.233.

The infection rate 19% in lower socio economic strata compared to middle class which was 10.9% similar to study by Goyal[23], however it was not statistically significantwith p value of 0.086. In our study, 19 patients had DM, 16 patients had HTN, 11 patients had PTB in the past. The infection rate was 21.2% in patients with history of medical illness compared to 12.5% in patient with no history of medical illness which was similar to study by Heal[21] and Ahmed[22]; however it was not statistically significantwith p value of 0.119.

In relation to BMI, the infection rate was 15.5% in patient with normal BMI compared to 12.5% in patient with higher BMI similar to study by Heal[21], Ahmed[22] and Goyal[23], howeverthere was no significant association in between infection rate and the BMI with p value of 0.533.

CONCLUSIONS

The routine postoperative follow up didn't affect the outcome of the minor surgery. The post operative infection in minor surgeries was not affected by the various risk factor like age, sex, residence, socio economic status, duration of surgery, history of medical illness and BMI. The post operative follow up after minor surgery is unnecessary but patient can go to nearby health care facility or operating surgeons if needed.

LIMITATION AND RECOMMENDATIONS

The study was a single center study and included small sample size. Diagnosis of the infection was subjective in the No follow up group as telephone inquires were made. The study also had time constraints so the long-term complication of minor surgeries couldn't be studied. Large scale randomized multi centered study for comparison between different hospitals and study to find out long-term complication of minor surgeries.

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