

POST-OPERATIVE WOUND INFECTION FOLLOWING GYNAECOLOGICAL OPERATIONS

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SYNOPSIS

A total of 174 patients undergoing gynaecological operations were studied to determine whether patients who were not shaved had a higher incidence of post-operative wound infection. The results showed that the wound infection rate was 2.2% for those who were shaved compared to 1.2% for those not shaved. It is concluded that pre-operative shaving of the patient may be discarded without fear of an increase in infection rate.

INTRODUCTION

Shaving of the operative area has been traditionally practised by surgeons for a long time. In recent years, however, several papers (1,2) have been presented which show that pre-operative shaving is not only unnecessary but also may be associated with an increase in wound sepsis. The reason is that shaving may give rise to superficial lesions which develop into microabscesses given time. In order to determine whether shaving can be discarded in the local context, a study was conducted in B and A Units of Kandang Kerbau Hospital comparing the incidence of post-operative wound infection for patients who were shaved and not shaved. The results are presented below.

MATERIALS AND METHODS

There was a total of 174 cases, with 99 and 75 cases being collected from B and A Units respectively. The cases in the study covered a whole range of common gynaecological operations, both abdominal and vaginal. The assignment of eligible patients into shaved and non-shaved groups was based on random allocation by card system, except for infertility cases who were included into the shaved group. Patients who had a history of allergy were excluded from the study.

The shaved group was shaved with a razor, while for the non-shaved group cropping of the mon-pubis was done for abdominal surgery, and full cropping for vaginal operations. The patient was shaved or cropped on the evening before the operation. On the morning of the day of operation the patient had a shower with ordinary soap, and a swab of the abdomen and perineum with Savlon (1:100) solution was carried out after the shower.

Immediately prior to the operation, the operative site was cleaned with 2 standard washes. The first was with Solution Chlorhexidine 0.05% and Cetrimide 0.5%; and the second was with Hibitane 1:200 in 70% alcohol. The surgeon's hands were scrubbed with either Gamophen soap or Hibitane solution. At operation, Povidine to the major pedicles, the vaginal vault, subcutaneous fat and skin prior to wound closure. Antibiotic was not administered routinely, unless indicated.

The post-operative wound union was followed up at one week and six weeks later. A wound defined as infected if it discharged pus. A wound that showed signs of inflammation or serous discharge was considered as possibly infected. These wounds were then followed daily until they either resolved (not infected) or suppurated (infected).

RESULTS

The 174 cases were studied from November 1982 to February 1983. During operation none of the cases showed evidence of being infected, and there was no break in aseptic technique. The results (Table 1) showed that after 6 weeks follow-up, the overall infection rate was 1.7%; 2.2% in the shaved group and 1.2% in the non-shaved group.

There was one patient in the non-shaved group who was considered to have an infected wound. This was in a patient with abdominal ligation, and she had a previous Caesarian section scar. In the shaved group 2 infected wounds broke down and required secondary suture. Staphylococcus aureus was isolated from the wounds. The difference in wound infection rates in the 2 groups was found to be statistically not significant ($X^2 = 0.0146$; $P = 0.50$).

DISCUSSION

It is generally accepted that approximately 5% of patients in a general hospital will acquire a hospital infection, with

infections of surgical wounds, urinary tract and respiratory tract being the main causes (3). In 1982 surgical wound infection was the most common cause of hospital infection in the 5 major hospitals in Singapore, where there is an on-going infection surveillance programme. It was responsible for 29% of all infections. As infections may not only give rise to serious consequences but also increase hospitalisation cost, several measures have been adopted over the years to reduce infection rates. Some of these measures have been adopted empirically without adequate proof of their values. Over the last 2 decades progress in the conduct of clinical trials have enabled surgeons to relook at the values of some of these measures that have been handed down. Such studies allow one to separate the valueless rituals from the more useful measures, thus resulting in the saving of time and expenses. A review of some of these measures has been made by Cruse (1).

In the present study the infection rate was higher in the shaved group (2.2%) as compared to the non-shaved group (1.2%) but the difference was not statistically significant. However, the results indicate that the cropping did not result in an increase in the infection rate, as compared with the conventional way of skin preparation. Shaving therefore need not be a mandatory requirement for patients undergoing surgery. An advantage of cropping is that it will reduce manpower requirement. As a complementary measure it is desirable to reduce the skin flora effectively by requiring patients to have a pre-operative shower using a degerming agent (4).

Comparison between hospitals on the incidence of post-operative wound infection is not easy because the criteria adopted and the duration patients are followed up may not be similar. In this study the criterion was similar to what was adopted by Cruse (1), but patients were followed up for 6 weeks instead of 28 days. Our overall infection rate of 1.7% is comparable to Cruse's 1.5% for his clean cases, even though many of our wounds were in the clean-contaminated category.

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TABLE I
Post-Operative Wound Infection

	Shave		Non-shaved		Total	
	No	%	No	%	No	%
No of cases	93	53	81	47	174	100
Inflamed but resolved	4	4.3	6	7.4	10	5.7
Infected wound	2	2.2	1	1.2	3	1.7