

THE INCIDENCE OF BACTEREMIA IN SKIN SURGERY

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SUMMARY : *Antibiotic prophylaxis for bacterial endocarditis is recommended for the individuals with valvular heart disease undergoing procedures associated with transient bacteremia. Thirty patients were studied undergoing minor cutaneous surgery. The incidence of bacteremia was evaluated by obtaining blood cultures from the patients preoperatively and 5 and 15 minutes after the procedure. As there was no growth in blood cultures, antibiotic prophylaxis was considered unnecessary for minor cutaneous surgery, especially when an appropriate antiseptic used for the surgical area.*

Key Words : *Bacteremia, Antibiotic Prophylaxis, Skin Surgery.*

INTRODUCTION

Bacterial endocarditis is a serious, life threatening disease. Fifteen percent of the cases are associated with iatrogenic procedures (4). Antibiotic prophylaxis is recommended for the individuals with valvular heart disease undergoing procedures associated with transient bacteremia (5).

Although the nature of the procedure is important, it is not easy to estimate the risk of a transient bacteremia (1). The risk of bacteremia and the need for antibiotic prophylaxis has not been adequately defined for skin surgery (2).

In this study we evaluated the incidence of transient bacteremia in 30 patients undergoing minor cutaneous surgery.

MATERIALS AND METHODS

Thirty patients admitted to Gazi University,

Department of Dermatology, with lesions requiring minor cutaneous surgery were included in our study. They neither had any systemic disease, nor used any kind of medication. Patients with valvular heart disease were left out of the study.

Surgical field was cleansed with alcohol and povidone-iodine. Cultures were obtained from the area with a sterile swab which had been previously moistened in sterile phosphate buffer, by rubbing 10-12 times over the area. The samples were diluted with a sterile solution and were inoculated.

The blood cultures were obtained preoperatively and 5 and 15 minutes after the surgery. The blood cultures were evaluated everyday and the ones without growth after 10 days were left out of the study.

RESULTS

There were 15 male and 15 female, patients ranging between 20 and 60 (mean : 39.2) years of

age.

The procedure carried out for each patient was minor cutaneous surgery. None of the lesions were ulcerated or clinically infected.

The results of the cultures obtained from the procedure after antiseptic administration are given in Table 1.

No	Sex / Age	Colony / cm ²
1	F 20	Ø
2	F 35	Ø
3	M 42	130
4	F 50	Ø
5	M 25	30
6	M 40	38
7	F 55	Ø
8	F 60	Ø
9	F 45	20
10	M 32	80
11	M 24	Ø
12	M 22	Ø
13	M 53	55
14	F 46	66
15	M 38	85
16	F 28	78
17	F 46	10
18	F 50	Ø
19	M 40	28
20	M 41	600
21	F 35	80
22	M 34	20
23	M 58	36
24	F 22	26
25	F 20	96
26	M 35	14
27	M 45	26
28	F 42	Ø
29	F 53	Ø
30	M 40	32

Table 1 : The results of the swab cultures are given as colony / cm².

There was no growth in the blood cultures taken before and 5 and 15 minutes after the procedures.

DISCUSSION

Bacterial endocarditis is a disease with a very significant morbidity and mortality (7). While the

actual relative risk of endocarditis and realised benefits of antibiotic prophylaxis are unknown, there is still a need of epidemiologic data (3).

It has been demonstrated that the manipulation of clinically infected skin is associated with a high incidence of bacteremia (> 35 %) with organisms known to cause endocarditis, and the risk decreases (3 %) on clinically uninfected skin (4).

In this study, minor cutaneous surgery was performed on clinically uninfected skin, and blood cultures were obtained preoperatively and 5-15 minutes after the procedure. There was no growth in any of the blood cultures. These results are parallel to the recommendations of the American Heart Association about the unnecessary of chemoprophylaxis for such manipulations (7).

The skin cultures obtained after an antiseptic on the area before the surgery were also evaluated. The number of colonies / cm² were under the limit of 100.000 colonies / cm², which is accepted to be the limit for bacteremia (6). An appropriate antiseptic also decreases the risk of bacteremia by decreasing the quantity of bacterial colonisation.

We conclude that antibiotic prophylaxis is unnecessary for minor cutaneous surgery on clinically uninfected skin when an appropriate antiseptic is used for the surgical area.

Additional information is needed regarding the incidence of bacteremia in skin surgery of patients with eczematous dermatoses which are known to be heavily colonized with *S. aureus*.

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