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Oral Health of Renal Transplant Patients in Hong Kong

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Introduction

The oral health of renal transplant patients in Hong Kong has been little studied.

It is known that the oral health of transplant patients is adversely affected by drugs such as cyclosporin A (CsA) and FK506 (a newly introduced immunosuppressant) which they routinely receive.

Objectives

1. To compare the effect of CsA and FK506 on gingival overgrowth,
2. To investigate the relationship of serum levels of CsA and FK506 with gingival overgrowth,
3. To compare the effect of CsA and FK506 on the oral carriage rates of yeasts and coliforms,
4. To investigate the effect of non-surgical periodontal treatment on gingival overgrowth.

Materials and Methods

A total of 47 patients receiving CsA and 10 receiving FK506 were recruited from the Renal Unit of the Queen Mary Hospital, Hong Kong. All the initial visit, patients chief dental complaint, history of renal transplant, medical and dental history were taken.

Clinical Examination

Decayed/Filled/Missing Teeth (DMFT) and Gingival Index (GI) were recorded by two calibrated examiners.

Oral Carriage Rates of Yeasts and Coliforms

Oral rinse samples (Samaranayake et al., 1986) were taken to determine the oral carriage rates of yeasts and coliforms in the cohort, which was isolated using Sabouraud’s dextrose agar and MacConkey’s agar, respectively. Yeasts and coliforms were isolated using API 20E.

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Gingival Overgrowth Index

Study models were taken for the measurement of Gingival Overgrowth Index (GOI) suggested by Seymour et al. (1991).

Periodontal Treatment Programme

All the patients were recruited to participate in a periodontal treatment programme, which consisted of six visits for oral hygiene instructions, full mouth scaling and root planing.

Clinical Examination

Decayed/Filled/Missing Teeth (DMFT) and Gingival Index (GI) were recorded by two calibrated examiners.

Oral Carriage Rates of Yeasts and Coliforms

Oral rinse samples (Samaranayake et al., 1986) were taken to determine the oral carriage rates of yeasts and coliforms in the cohort, which was isolated using Sabouraud’s dextrose agar and MacConkey’s agar, respectively. Yeasts and coliforms were isolated using API 20E.

Statistical Analyses

Differences in GOI in the CsA and the FK506 and effect of non-surgical periodontal treatment on GOI were analysed by Student’s t-test (Statistical Package for Social Sciences, Version II, USA). Differences in oral carriage rates of yeasts and coliform in the two groups was analysed by Chi square test.

Results

Chief Complaints

Nature of complaint No. of patients

Gum swelling 26
Dentine sensitivity 13
Decayed tooth/teeth 13
Gum bleeding 10

Clinical Examination

CsA FK506

GOL (mean) 45.2% 25.1%
GI 32.7% 20.0%
DMFT 7.8 8.3

Oral Carriage of Yeasts and Coliforms

Yeasts Coliforms

CsA 15 (21.9%) 20 (42.6%)
FK506 4 (60.0%) 2 (20.0%)
Total 19 (33.3%) 22 (38.6%)

Yeasts and Coliforms isolated

Species No. of occasions isolated

Candida albicans 14
Candida glabrata 2
Candida tropicalis 2
Candida guilliermondii 1
Candida parapsilosis 1

Entrobacteriaceae

Klebsiella pneumoniae 12
Enterobacter aerogenes 5
Enterobacter cloacae 1
Enterobacter intermedium 1
Enterobacter sakazakii 1
Escherichia coli 1
Citrobacter freundii 1

Neisseriaceae

Acinetobacter spp. 1
Others

Chromobacterium violaceum 1
Chryseomonas luteola 1

References