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inhibits the adhesion of *C.albicans* and *C.glabrata* to dentures.

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Background

Oral candidiasis is a common opportunistic infection caused by *C.albicans* and *C.glabrata*. Recently, the elderly population with this infection has increased. There are many reports of an association of oral candidiasis with dentures. Limited choices of antifungal drugs and their high toxicity as well as the potential risk of the emergence of the drug-resistant *Candida species* indicate the need to develop a novel therapeutic strategy. Anti *C.albicans* antibodies were prepared in chicken egg yolk (anti-CAIgY) and their ability to inhibit the adhesion of *C.albicans* and *C.glabrata* to denture materials was investigated.

Objectives

The objectives of this study were to investigate the inhibition of adhesion by anti-CAIgY of *C.albicans* and *C.glabrata* to denture materials.

Materials and Methods

The ability of anti-CAIgY to inhibit adhesion was examined by two adhesion inhibition assays, one that counted the Colony Formation Units (CFU) and the number of yeast or hypha. The adhering colonies were counted on YPD agar (CFU/g) the next way. Five square mm of methyl metacrylate resin 1 mm thick were weighted and inserted in 24-well plates. Dilutions of anti-CA IgY were prepared (0 mg, 2.5 mg and 5 mg) and 0.5 ml of each was then added to a plate with 0.5 ml (5X10^7 CFU) of *Candida species* (*C.albicans*: ATCC18804 or *C.glabrata*: ATCC90030).The plate was incubated at 37°C for 2 hours and then washed vigorously 3 times with PBS and the resin materials were transferred to new plate containing 1 ml of Triton 100X (0.1%) for 15 minutes and vigorously vortexed for 10 minutes and the adhering colonies were counted on YPD agar (CFU/g). Identical squares of methyl metacrylate resins were then inserted into the 24-well plates to count the number of yeast or hypha. The dilutions of anti-CA IgY were prepared (0 mg, 2.5 mg and 5 mg) and 0.5 ml of each was added to the plates with 0.5 ml(5 X10^7 CFU) of *Candida species* (*C.albicans*: ATCC18804 or *C.glabrata*: ATCC90030).The plate was incubated at 37°C for 2 hours and then it washed vigorously 3 times with PBS and then the resin materials were moved to a new plate, were subjected to Gram staining and then yeast or hypha were counted under microscopy at random 10 fields and averaged a magnification of 100x. .

Results

Fig. 1

Adhering colonies on the YPD agar

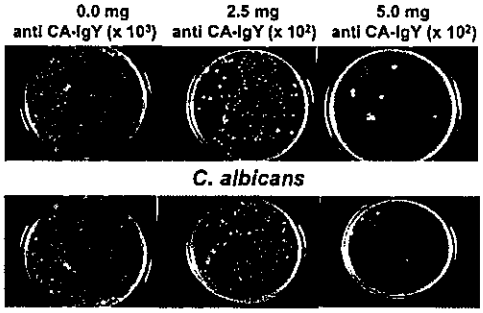

Fig. 2

Numbers of adhering colonies

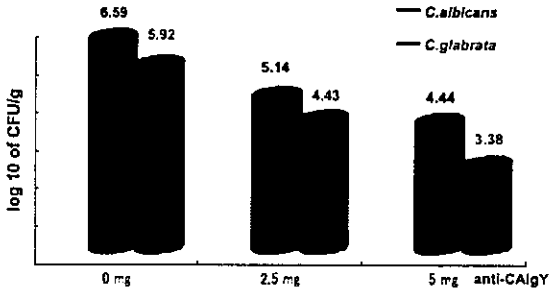

Fig. 3

Adhering yeast on the resin

C.albicans

0.0 mg anti CA-IgY	2.5 mg anti CA-IgY	5.0 mg anti CA-IgY
32.5	2.8	0.8

average at random 10 areas/ field X100

Fig. 4

Adhering yeast on the resin

C.glabrata

0.0 mg anti CA-IgY	2.5 mg anti CA-IgY	5.0 mg anti CA-IgY
37.5	3.2	1.2

average at random 10 areas/ field X100

Summary

・The ability of anti-CAIgY to inhibit adhesion was examined by two adhesion inhibition assays, one that counted the Colony Formation Units (CFU) and the number of yeast or hypha on the resin.

・Anti-CA IgY decreased the number of the CFU of *C.albicans* and *C.glabrata* adherent with methyl metacrylate resin to over 1X10^{-3}.

・Anti-CA IgY decreased the number of yeast or hypha on the resin which were counted under microscopy at 10 random fields and averaged magnification of 100x. .

conclusion