Phenotypic switching pattern of *Candida krusei* in nitrogen limited growth environment

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**Objective:** To analyze the switching pattern of *C. krusei* in nitrogen limited growth environment. **Methods:** *Candida krusei* colonies were randomly selected and isolated from samples originating from the oral cavities of three different target groups; individuals with healthy oral cavity, periodontal diseased patients and denture wearers. Colonies representative of each group was then grown on yeast extract potato dextrose (YPED) agar containing 5 mg Phloxine B dye. Following a 5 days incubation period, colonies showing a switch in the colour from the original were counted and considered as having a phenotypic switch in the first generation. These colonies were again subcultured on new media plates. Phenotypic switching of *Candida krusei* was repeated and observed for four generations. **Results:** Phenotypic switching of *Candida krusei* obtained from the oral cavity of denture wearers showed an increased pattern until the third generation (14.80 x 10^7 cfu/ml) but reduced drastically in the fourth generation. In contrast, phenotypic switching of *Candida krusei* from periodontitis patients more suppressed in the first and second generation, but increased switching was observed in the third generation (9.99 x 10^7 cfu/ml). However, the ability to phenotypically switched was induced in the fourth generation. The control group of healthy oral cavity showed similar pattern with *Candida krusei* from denture wearers but maximum phenotypic switching was in the 2nd generation with the highest phenotypic switching rate (19.00 x 10^7 cfu/ml) compared to the other two groups. **Conclusion:** *Candida krusei* was observed to have the ability to switch its phenotypic characteristic when the growth condition is unfavourable. The switching pattern was more active and prominent in *Candida krusei* isolated from healthy oral cavity compared to those that have periodontal problems and wearing dentures.

**Keywords:** *Candida krusei*, phenotypic switching