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Disputas: DDS Mustafa Murat Mutluay

ved Institutt for klinisk odontologi vil forsvare sin avhandling for graden ph.d.
(philosophiae doctor)

"In vitro and in vivo studies on soft and hard denture lining materials"

Tid og sted

2. jun. 2010 10:15, Det odontologiske fakultet, Geitemyrsveien 69, Store Auditorium
(GV02 144)

Prøveforelesning

1. jun. 2010 15:15 (Det odontologiske fakultet, Geitemyrsveien 69, Auditorium 1
(GV205)) - 'Denture re-lining - a sign of failure of conventional dentures or a genuine
adjunct to treatment?'

Bedømmelseskomité

Professor PhD, DSc John McCabe
Newcastle University
Førsteamanuensis Dr. Odont Marit Øilo
Universitetet i Bergen
Professor Dr. Philos Bjørn Frode Hansen
Universitetet i Oslo

Leder av disputas: Dekan Pål Brodin

Veileder: I. Eystein Ruyter, Finn Fløystrand og Dag Ørstavik

Sammendrag

In vitro and in vivo studies on soft and hard denture lining materials

Advancements in preventive health care and improved living conditions have led to an increased life expectancy. Despite general improvements in oral health, tooth loss remains a problem for the elderly. For many patients with no or very few remaining natural teeth, removable dentures are the only treatment option.

Denture lining materials are polymers that are applied to the tissue-contacting surfaces of dentures for increasing the adaptability of the oral soft and hard tissues

to hard denture bases. Currently, various material types intended to be used as soft liners are available. However, clinical studies assessing the performance of these materials are scarce, as are laboratory studies that effectively test their clinically relevant properties.

This thesis is based on in vivo and in vitro experiments that investigate clinically important properties of hard and soft denture lining materials. Clinical, microbiological and mechanical studies were designed, based on the current literature and denture fabrication and clinical treatment techniques.

The results of the clinical study showed early fungal colonization problems. The prevalence of *Candida* in patients appeared not to be related to liner usage. Clinical isolates of *Candida albicans* behaved differently in in vitro adhesion experiments, showing the diversity of the surface characteristics of oral *Candida albicans* strains. Coating the testing substrate surfaces with whole saliva decreased the adherence of *Candida albicans* cells, regardless of the substrate used.

Vinyl poly(siloxane) lining systems gave similar bond strengths to denture base polymers compared to the previously well-studied poly(siloxane) control material. For hard liners, the ability of the monomers to swell the PMMA surface and penetration into the surface layer improved adhesion. Suitable choice of materials and attention to the surface preparation process, combined with regular patient follow-ups, are seen to be the best strategy for optimizing denture function and patient comfort when using denture lining materials.

Kontaktperson

For mer informasjon, kontakt [Knut Gythfeldt](#).

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