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**OROFACIAL GRANULOMATOSIS AND ORAL SYMPTOMS IN A SOUTH
AUSTRALIAN PAEDIATRIC POPULATION WITH CROHN'S DISEASE**

DOCTOR OF CLINICAL DENTISTRY (Paediatric Dentistry)

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Evelyn Kar-Yun Yeung

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List of Abbreviations

APAIBDD	Australian Paediatric and Adolescent Inflammatory Bowel Disease Database
ASCA	<i>anti-Saccharomyces cerevisiae</i> antibodies
CD	Crohn's disease
CDAI	Crohn's Disease Activity Index
CG	Cheilitis granulomatosa of Miescher
CRP	C-reactive protein
ESR	Erythrocyte sedimentation rate
MRS	Melkersson Rosenthal syndrome
OCD	Oral Crohn's disease
OFG	Orofacial granulomatosis
p-ANCA	Perinuclear-staining antineutrophil cytoplasmic antibodies
PDU	Paediatric Dental Unit
WCH	Women's and Children's Hospital, Adelaide, South Australia

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Abstract

This research is a pilot study to determine if oral manifestations, including orofacial granulomatosis (OFG) are a precursor to, or an oral manifestation of paediatric Crohn's Disease (CD), or a separate pathological condition in a South Australian paediatric population. Additionally the investigation and management of two paediatric patients who first presented with oral symptoms and diagnosed with CD is reported.

Retrospective analysis was conducted on patients on the Australian Paediatric and Adolescent Inflammatory Bowel Disease Database and the medical records of patients with CD or OFG from the Paediatric Dental Unit, Women's and Children's Hospital (n=945). From this group, a cohort of 22 eligible South Australian paediatric patients participated in a prospective clinical study. Over a period of 14 months questionnaires and clinical assessments were conducted. Data collection included patient/parent questionnaire, clinical examination, clinical photography and serological investigation. Of the cohort of 22 paediatric patients with CD assessed, 54.5% of patients presented with oral involvement. The mean age of CD diagnosis was 11 years and 4 months, while the mean age of OFG diagnosis was 9 years and 6 months.

A retrospective analysis was conducted of oral and gastrointestinal biopsies from 8 paediatric patients who had had a provisional diagnosis of OFG and for whom subsequent investigation for CD was undertaken. The histopathological features of oral and gastrointestinal lesions in each patient were compared. Of the 8 patients assessed, 6 were diagnosed with OFG on the basis of the oral biopsies. Only 1 patient had both macroscopic and microscopic changes consistent with active CD and all 6 patients with OFG had perianal disease. A

multidisciplinary approach to investigating all relevant clinical, histological and serological information resulted in 7 of the 8 patients having a final diagnosis of CD.

The results from this study indicate that oral involvement maybe more common than the national data indicates and that it may both precede and be an oral manifestation of CD. From the histological investigation of oral and gastrointestinal biopsies there is no conclusive evidence found linking OFG and CD, however given the strong association between the two conditions and other clinical and serological markers, multidisciplinary management is recommended to establish a definitive diagnosis. Data obtained from the prospective clinical assessment and clinical photography was used to devise a visual OFG/oral CD diagnostic guide. This was developed to aid in the diagnosis of OFG and oral CD by medical and dental practitioners. The results from this study also indicate the importance of collaboration of dental and medical physicians to aid in early diagnosis and management of CD.

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Thesis Format

This thesis presents the three different investigations in this study un-formatted articles which are intended for publication following submission of this thesis. Each article is presented individual chapters.

The introductory chapter discusses the background of OFG and CD, the null hypothesis, objectives of this research, specific aims and the link between the different investigations undertaken in this study.

The second chapter reviews the literature of OFG and CD to discuss the aetiology, clinical presentation, investigation, histopathology, and clinical management of CD and OFG.

The third chapter describes the main investigation from this study involving retrospective analysis of data and findings from questionnaires and clinical assessments

The fourth chapter details the findings from the retrospective histopathological analysis of oral and GI biopsy specimens in 8 patients.

The fifth chapter consists of a case report of two paediatric patients who initially presented with both orofacial and gastrointestinal symptoms. Multi-disciplinary investigations were under taken and the management of the oral symptoms was reviewed.

The final chapter discussed the major finding from the three investigations and their significance, problems that were encountered and potential future research based on the findings in this study.

All references are listed at the end of the thesis, and tables and figures with their corresponding text are presented together where possible.