

# RETROCUSPID PAPILLA IN A SAMPLE OF SAUDI DENTAL PATIENTS

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## ABSTRACT

*The aim of this study was to estimate the prevalence of retrocuspid papilla in an outpatient dental population at the College of Dentistry, King Saud University in Riyadh Saudi Arabia. Oral clinical examination was conducted on a total of 1350 outpatients, with a wide age range. Distribution according to age groups, and symmetry within the dental arch was studied. Results showed that retrocuspid papilla was observed in 294 (21.78%) of the total sample, 35.7% male and 64.3% female, 461(49.24%) within age groups 0-20 years, and only 67(7.45%) among 21 years and older. Meanwhile 157 (74.41%) out of 211 subjects, 0-10 years old, had retrocuspid papilla. Bilateral occurrence was prevalent among both young and older groups and gender with more female predilection. In conclusion, retrocuspid papillae are common anomaly among young children, regress with age and should be differentiated from other gingival conditions.*

**Key words:** retrocuspid papilla, anomaly, gingival swelling, abscess, Saudi Arabia.

## INTRODUCTION

Retrocuspid papillae (RCP) are 2 to 4 mm nodules located, more commonly, bilateral on the lingual attached gingiva immediately posterior to the mandibular cuspids. They are soft, of homogenous pink color, and not associated with any causative factor.<sup>1</sup> "Fig I". They represent a developmental anomaly since they appear bilaterally and in a predictable location. Berman and Fay<sup>2</sup> indicated that retrocuspid papilla may represent a variant of giant cell fibroma. Buchner et al<sup>3</sup> indicated that RCP are observed more frequently in young children and seem to regress or disappear with age. They were also considered a "normal anatomic" structure or an "anatomic variation" of the gingiva.

The clinical significance of these small nodules is that they may be mistaken for a parulis, vesicle, fistula or other pathologic gingival conditions from which it must be differentiated. Lack of an infectious source allows for a clinical diagnosis.<sup>2</sup>

The prevalence of RCPs was studied in populations with different ethnic origins and at certain parts of the world such as United States, Israel and South America. Variation ranges from 6% in adult population<sup>2</sup> up to 99% in young groups.<sup>3-6</sup> Berman and Fay<sup>2</sup> mentioned a possible genetic influence on the clinical presence of the RCPs. Since data on RCP are not available from Riyadh Saudi Arabia, this study was undertaken. The aim of the present study was to examine the prevalence of RCPs in a selected sample from Saudi population.

## MATERIALS AND METHODS

Oral examination was performed on most patients attending dental clinics at College of Dentistry King Saud University between 2003-2006. A wide range of age groups, both young and adults, were included. One oral medicine and diagnosis specialist performed the soft tissue examination in regular dental settings, using mouth mirror and adequate light. Information was recorded in a special form designed for this survey.

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Age (yr.)	No. of patients	Patients with bilateral RCP (%)	Patients with unilateral RCP (%)	Total Prevalence of RCP (%)
0-10	211	114(54.03%)	43(20.38%)	157(74.41%)
11-20	250	43(17.2%)	27(10.8%)	70(28%)
21-30	330	50(15.15%)	10(3.03)	60(18.18)
31-40	157	5(3.18%)	2(1.27%)	7(4.45%)
41-50	245	0(0%)	0(0%)	0(0%)
51->	157	0(0%)	0(%)	0(0%)
<b>Total</b>	1350	212(15.70%)	82(6.07%)	294(21.78%)

TABLE 1: DISTRIBUTION OF PATIENTS WITH RETROCUSPID PAPILLAE WITHIN AGE GROUPS

Gender	No. of patients with RCP	Patients with unilateral RCP (%)	Patients with bilateral with (%)	Total prevalence of RCP (%)
Male	105 (35.7%)	27 (25.7%)	78 (74.3%)	7.78%
Female	189 (64.3%)	73 (38.62%)	116 (61.38)	14%
<b>Total</b>	294 (21.78%)	100 (34.01%)	194 (65.99%)	21.78%

TABLE 2: DISTRIBUTION OF GENDER IN RELATION TO SYMMETRY OF RETROCUSPID PAPILLA IN THE DENTAL ARCH



Fig. I: Unilateral retrocuspid papilla

Demographic data were also recorded. Patients excluded were those with the followings: localized, multiple and generalized gingival swellings. Patients with systemic diseases leading to gingival enlargement were also excluded. Age groups were divided into decades. Notation of whether findings of RCP were unilateral or bilateral was also made. The data were analysed using SPSS program.

## RESULTS

A total of 1350 patients were examined. Age ranges from three to sixty one years. There were 729 (54%) males, and 621 (46%) females. Subjects with RCPs were 294 (21.78%) out of total number, 105(35.7%) were males and 189(64.3%) females. The highest prevalence was within age group between 0-10 years, were 157 (74.41%) out of 211 subjects had RCP (Table 1). Bilateral occurrence was (65.99%) compared to unilateral as (34.01%). There were 461 subjects below age 21 years, 227 (49.24%) of them had RCP and bilateral distribution was noticed among 157(69.16%). Whereas, there were 889 subjects 21 year old and above with only 67(7.54%) had RCP. Females had about double the percentage than males (14% vs. 7.78%) [Table 2].

## DISCUSSION

Retrocuspid papilla is a circumscribed round or oval dome-shaped sessile nodule found on the lingual surface of the mandibular cuspids near the mucogingival junction.<sup>2</sup> Few studies presented information about RCP. It was first reported by Hirschfeld<sup>5</sup> in 1947, that 99% of children between 3-16 years old had RCPs. Everett et al<sup>2</sup> indicated that 51% and Berman and Fay<sup>6</sup> 51.7% prevalence in young children. Findings of the present study revealed 49.24% prevalence within subjects younger than 21 years old and only 7.54% in older groups.

Easley & Weis<sup>7</sup> reported a percentage of 85.2% among population less than 26 years of age. The prevalence of RCP was determined in an Israeli population and was observed in 38.5% of the younger group and in 11.3% of the adult group.<sup>4</sup> Greater occurrence of bilateral than unilateral RCPs was observed in each age group and in both sexes.<sup>4</sup> They also reported that this anomaly predominated in females. The findings observed in the Saudi sample were less in prevalence than the Israeli sample (21.78%), but similar in bilat-

eral distribution (69.16%) and female predilection (14%) (Table 2). Similar findings were revealed from Latin America.<sup>8</sup> Three groups from Southern Ecuador, North-eastern Honduras and Eastern Nicaragua were studied. They reported, the highest prevalence in under-five age group at a relative frequency of 25 per cent and progressively decrease with age. RCPs were present significantly more often among females in the Honduras group; a unilateral distribution was more frequent than a bilateral distribution, except for Nicaragua group, where a bilateral distribution prevailed.<sup>8</sup> This is not consistent with the findings from the Saudi sample, which presented a dominant bilateral distribution among all age groups.

Findings of the present study followed the trend of other surveys, showing that RCP is commonly found in younger age but becomes progressively less evident with advancing age. Hirshfeld<sup>5</sup> proposed the possibility of extended exposure of RCP to functional irritation, such as mastication, abrasion, attrition, and atrophic changes due to an increase in age or other processes as the detriment of this over-all trend.

Hedin et al<sup>9</sup> reported that as RCPs is poorly recognized entity it was submitted as surgical biopsies. Histologically, the RCP was reported as a broad-based, often downfolded hyperplasia, covered with a parakeratinized epithelium of normal thickness. The rete pegs are often elongated and blunt, frequently bent inward toward the center. The lamina propria is mostly composed of loosely arranged, delicate, fibrous connective tissue. The lesions could be classified into two groups by the presence or absence of stellate and occasionally multinucleated fibroblasts. Immunohistochemical staining with an FXIIIa antibody disclosed a proportion of reactive spindle-shaped cells, mainly localized in the connective-tissue papillae. These cells may be of pathogenic importance.

The clinical significance of RCPs resides in the fact that it may simulate pathological gingival conditions from which it should be differentiated. Such conditions as pyogenic granuloma, peripheral giant cell granuloma, irritation fibroma, gingival cyst, localized periodontal abscess, or a tumor metastasis to the gingiva. RCP is considered to be a "normal anatomical structure" or an "anatomical variation" of the gingiva that regresses with age and requires no treatment.<sup>3</sup>

**CONCLUSIONS**

- The prevalence of RCP in Saudi sample was low as compared to other populations.
- About three-fourth among the age group 0 -10 years had RCP.
- About two-third of the sample had Bilateral RCP occurrence.
- The prevalence of RCP in females was double as compared to males.

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