

# DENTAL ANOMALIES IN MENTAL PATIENTS<sup>1</sup>

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*Mentally deficient individuals suffer an unusually high rate of dental anomalies. It has thus been concluded that factors causing or accompanying mental illness promote the development of these dental irregularities. The present article examines this conclusion in terms of a dental survey of mental patients in the State of São Paulo, Brazil.*

## Introduction

In recent years heavy emphasis has been placed on dental services for the mentally deficient. Especially in the United States, studies have been made to determine the scope and implications of mental patients' dental problems. Conversely, the broad study of mental illness has made significant contributions to many sciences such as psychology, endocrinology, genetics, etc.—including dentistry. In the latter case this is mainly because certain dental anomalies have been associated with certain kinds of mental deficiency.

In general, the association between physical abnormalities and mental illness has been known of for many years. As far back as 1929 Tregold (12) affirmed that "Abnormal conditions of the skeleton occur with extreme frequency in amentia [cases of mental deficiency], and the number of these persons who do not present one or more well-marked bony anomalies is small. The cranium, palate, jaws, and teeth are the

parts most frequently affected."<sup>5</sup> The same author states: "Considering the frequent occurrence of deformities of the palate, it is not surprising to find that anomalies of the teeth are very common, and a good set of teeth is somewhat rare in the mentally defective."<sup>6</sup> Diner (4) asserts that "dental abnormalities occur with greater than normal frequency in many handicapped children." An examination of mentally retarded infants by Gullikson (6) showed a higher than normal incidence of dental problems associated with a very high rate of dental anomalies. And a study of dental anomalies among mentally deficient and epileptic subjects by Sasseti, *et al.* (11) indicated that although the frequency of anomalies varied according to the particular type of mental problem involved, the anomalies were clearly more common among the mentally deficient than among normal individuals.

All in all, these findings support the generally accepted view that an unusually high rate of dental anomalies is associated with mental illness. On the basis of these findings, it is the aim of the present article to assess the incidence of various types of dental anomalies observed in a group of

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<sup>5</sup> A. F. Tregold (12), p. 134.

<sup>6</sup> *Ibid.*, p. 138.

mentally deficient subjects at an institution in Bauru, Brazil.

### Materials and Methods

Fifty-three young in-patients, part-time in-patients, and outpatients were examined at a mental institution in the City of Bauru, São Paulo State. This sample included 47 males and 6 females from 7 to 18 years of age, the average age being 12 years. All the subjects were generically classified as "mentally deficient," specific diagnosis (mongolism and schizophrenia) being available in only two cases. The average intelligence quotient was 58, but individual scores at the institution ranged from 10 to 120.<sup>7</sup> With respect to race, 13 of the subjects had negro features and 40 were white.

Examinations were made in natural light using a mouth mirror that had been chemically disinfected in a solution of "Zefirol." Pre-sterilized wooden spatulas were used to manipulate the tongue and cheeks of the subjects. No radiographic equipment was used, and so little could be determined about development of the observed anomalies, except when teeth were clinically absent.

The subjects' general dental health status was also evaluated, observations being made of caries, gum problems, malocclusions, and oral hygiene. The results of this evaluation will be presented elsewhere.

### Results and Discussion

Of the subjects examined, no dental anomalies were found in 21 (39.6 per cent). However, anomalies were observed in 28 subjects (52.8 per cent), and maxillary incisor fractures were found in seven (13.2 per cent), three subjects having both anomalies and fractures. It should be emphasized that the proportion of individuals with fractured teeth was substantially higher than that

usually found in normal patients, the latter having been estimated by Bijella at about 6 per cent (2).

The dental anomalies we observed were assessed in terms of Bhaskar's classification (1), which segregates the various anomalies according to the stage of tooth development at which they occur (see Table 1). The classification thus lists anomalies that manifest themselves in the early development phase, during morphodifferentiation, in the course of apposition of hard tissues, during calcification, and finally, during eruption of the tooth.

One of the disorders that manifests itself in the primary development stage is partial or total anodontia (congenital absence of teeth). According to the literature (for example, see references 6, 8, and 10) this is most frequent in the case of patients with cerebral lesions. In our study we found four cases in which a maxillary tooth was clinically absent. The teeth in question were a first molar in two instances, a lateral incisor in one, and a canine in the last. However, it was not possible to confirm that these were true anodontia cases without X-ray examinations.

Of the problems that occur during morphodifferentiation, the one we found most often was development of a maxillary second molar with three cusps instead of the usual four. Twelve such teeth were found in eight individuals (15.1 per cent of the subjects). Other anomalies first manifested during morphodifferentiation were also observed. Two subjects had microdontic (abnormally small) second molars; one subject had a mandibular second molar with five cusps; one had a mandibular first molar with six cusps; one had a maxillary mulberry tooth with six cusps; and three subjects had Hutchison's teeth,<sup>8</sup> the teeth affected being maxillary central and lateral incisors.

<sup>7</sup>All of the institution's patients had I.Q. scores below 80 (the cutoff point used for the study) except for two children with a severe motor disturbance (cerebral palsy) who were not mentally retarded.

<sup>8</sup>Notched and narrow-edged incisors, often regarded as a sign of congenital syphilis but not always of such origin.

TABLE 1—Dental anomalies and fractured teeth observed in mentally deficient patients at a mental institution in Bauru (São Paulo State), listed according to Bhaskar's classification (1).

Stage of tooth development	Anomaly	No. of subjects with anomaly	Total No. of teeth affected
Primary stage	Anodontia (not confirmed by X-ray examination) . . . . .	4	4
	Second molar (maxillary) with three cusps . . . . .	8	12
Morphodifferentiation	Abnormally small second molar (microdontia) . . . . .	2	2
	Second molar (mandibular) with five cusps . . . . .	1	1
	First molar (mandibular) with six cusps . . . . .	1	1
	Moribund first molar (maxillary) . . . . .	1	1
	Hutchinson's teeth . . . . .	3	4
Apposition	Enamel hypoplasia . . . . .	6	16
Eruption	Retarded eruption . . . . .	2	2
Fractures	Fractured maxillary incisor . . . . .	7	7

Enamel hypoplasia, which becomes manifest during apposition, was extremely common, being found in six individuals with a total of 16 affected anterior teeth.

No calcification disorders were noted, but there were two cases of highly retarded eruption, a phenomenon previously reported by Raison, *et al.* (10).

These results are generally consistent with those presented in the literature. Sasseti, *et al.* (11) have previously reported a high incidence of second molars with three cusps. Gullikson (6) found anomalies in 37 per cent of the patients examined; of these, 15 per cent had anodontia, 8.5 per cent had teeth with structural alterations, and 16 per cent had enamel hypoplasia.

Also, a survey by McMillan and Kashgarian (7) revealed hypoplastic teeth in 31.5 per cent of 286 mentally disturbed patients. The same authors found high rates of anodontia (35.1 per cent) and abnormal dental morphology (34.5 per cent) among mongoloid individuals (8), as well as high rates of enamel hypoplasia (22.2 per cent) and abnormal dental morphology (11.1 per cent) in epileptic subjects (9). Codina (3) has re-

ported similar anomalies among epileptics.

Diner (5) has reported research in which a comparison was made of dental anomalies occurring in normal and mentally deficient subjects. It was established that whereas only 8 per cent of the normal population examined showed any type of morphological irregularity, the corresponding figure for mongoloid subjects was 74 per cent.

**Conclusions**

On the basis of the results obtained and their comparison with the findings of other workers, we may conclude that:

- 1) There is a close association between congenital or hereditary mental disturbances and alterations in the dental morphology.
- 2) Ameloblast activity may be affected in mentally deficient subjects, and this can disturb the apposition of the enamel's organic material, producing an unusually high incidence of enamel hypoplasia.
- 3) The frequency of fractures in the anterior teeth of mentally deficient subjects is very high.

## SUMMARY

Fifty-three patients were examined for dental abnormalities at an institution specializing in care of the mentally deficient in Bauru, São Paulo State. The incidence of teeth with abnormal morphology, mainly second molars with an ab-

normal number of cusps, was extremely high. Enamel hypoplasia was frequently found in anterior teeth, and the percentage of fractured maxillary incisors was significantly higher than that observed in normal individuals.

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