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ORO-DENTAL PATTERN IN MENTALLY RETARDED

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SUMMARY

This study was carried out in 25 mentally retarded children and compared with equal number of normal children. They were subjected to detailed psychiatric evaluation and dental examination. The dental anomalies were corraborated with cephalometric analysis of lateral cephalograms. It was concluded that all mentally retarded children had some dental abnormality in them in form of dental malocclusion, wide inter dental spaces, absence of teeth etc. We suggest early dental management for such patients for reinforcing their neuromuscular cordination modifying the mastication power, swallowing, speech, stomatognathic functions and above all their facial profile for better social acceptance.

Normal facial morphology and its components are necessary for harmony and aesthetic of the cranio-facial complex (Ingervall and Helkimo, 1978). Oral and dental anomalies are a frequent accompaniment of mentally retarded patients leading to lack of necessary muscular control and improper functioning of stomatognathic complex. Various abnormalities like severe malocclusion, congenital absence and small sized teeth resulting in cranio-facial disfigurement (Jackson, 1967) have been reported in mentally retarded. In our present study we analysed the dento-skeletal pattern in mentally retarded children, with the view that by softening the unpleasant profile the cranio-facial pattern may be so altered by orthodontic treatment that these unfortunate children may be given a better chance of social acceptance.

MATERIAL AND METHOD

The present study was conducted on 25 mentally retarded children and an equal number of normal children. All subjects were between 10 to 14 years with an average age of 12.5 ± 1.3 years. Patients having only primary mental retardation (i.e. mentally retarded since birth) were included. They were selected from schools for mentally retarded children. Normal healthy children from schools reporting for routine dental check up in outpatient department of Dental College, Lucknow were selected to serve as control.

Medical history and relevant information were obtained. The occlusion and malformations were commented only after a careful analysis of the lateral cephalograms of both normal and the mentally retarded patients after comparing with a standardized universal lateral cephalogram. The mentally retarded and normal children enrolled for the study were subjected to a I. Q. assessment using the Seguin Form Board Test and Vine-land Social Maturity Scale. The categorization was done according to international classification of diseases—9th revision

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(1975) into mild (I. Q. 50 to 70), moderate (35 to 49), severe (20 to 34), and profound (less than 20). Patients of profound mental retardation were excluded because of lack of cooperation.

RESULTS

All the mentally retarded children had one or the other form of oro-dental abnormality. Malocclusion in form of open bite, cross bite and crowding was the commonest presentation (60%). Other abnormalities were mutilated dentition (30%), deenamelled worm off surfaces (30%), and widened interdental spaces (40%). Congenitally absent teeth were also found relatively common (40%), the maxillary lateral incisers, lower mandibular incisors and 3rd molars, being the commonest teeth missing. 20% of patients had an excessively arched palate while one patient had a flat palate (Table I). A few patients (10-15%) had small permanent teeth, asymmetrical dental arches and decreased palatal depth and width. Commonest combination of abnormalities was malocclusion present with congenital absence (40%).

TABLE 1. *Dental abnormalities in mentally retarded as compared to normal children*

Abnormality	Normal Children (N=25)		Mentally Retarded (N=25)	
	No.	%	No.	%
Malocclusion	8	30	15	60
Mutilated dentition	5	20	8	30
Interdental space	5	20	10	40
Congenitally absent teeth	1	4	10	40
High arched palate	—	—	5	20
Flat palate	—	—	1	4
Deenamelled teeth	5	20	8	30

Poor dental and oral hygiene with gingivitis and periodontal diseases was however the hallmark of all mentally retarded children. Active dental caries and severe calculus formation was also present in fair number of patient (70-80%). While the average I. Q. of normal children was between 94 ± 14 that of mentally retarded was 38 ± 8.4. The degree of mental retardation appeared to have no relationship with the pattern of dental abnormalities (Table-2)

TABLE 2. *Mean I. Q. level and dental abnormality in mentally retarded*

Abnormalies	IQ Level		
	20-34(n=8)	35-49(n=10)	50-70(n=6)
Malocclusion	6	4	5
Mutilated dentition	3	4	1
Interdental space	3	4	3
Congenitally absent teeth	4	3	3
High arched palate	2	2	1
Flat palate	0	1	0
Denamelled teeth	4	2	2

Evaluation of normal children of similar age group revealed malocclusion (30%) as the only major abnormality. Minor degree of mutilated dentition and widened inter dental spaces were also present in 20% of cases. Except for 3rd molar none were possessing congenital absence of any tooth. Dental caries and calculus was however present in 40-50% of them.

DISCUSSION

Interest in the study of oral and dental anomalies in mentally retarded patients goes back as far as 17th century. While Down early in 1802 reported 58% of his 200 cases of idiocy to be possessing high arched palate, Jones (1890) observed increased evidence of congenital absence of teeth. Gullikson (1969) in a dental examination and cephalometric analysis in 200 patients between 3-14 years and I.Q. of 20-60, reported 64% of his

cases to be having evidence of palatal anomalies, 15% having congenital absence of teeth while 70% of them revealed malocclusion. He also forwarded an explanation that mentally retarded children are more nervous and have poor dental hygiene so tooth grinding habits lead to worn off surfaces. Furthermore, thumb sucking and thrusting habits with congenital absence results in malocclusion and overcrowding. Observations show that in nearly all mentally retarded children some form of congenital dental anomaly was present and malocclusion happened to be the commonest presentation. This is in strong agreement with other clinical observation by Jackson (1967), Gullikson (1969). In a similar study Owen and Graber (1974) also observed similar dental anomalies in mentally retarded and have suggested that guiding the developing occlusion by early comprehensive orthodontic diagnosis and treatment will help achieving a normal occlusion and marked improvement in masticatory functions. Furthermore it will help in providing and increasing the efficiency of neuromuscular coordination resulting in proper functioning of jaws, tongue and swallowing pattern. Gershater (1972) and Sasouni (1967) had also emphatically stated a strong interrelationship between muscular activity of the stometognathic complex and skeleto dental morphology change of skeletal morphology results in change of muscular function. Hence malocclusion has also been forwarded as an important factor for various stigmas of mental retardation in form of improper shape of cranio-facial pattern, deglutition, speech, mastication and olfaction (Ingervall and Thilander, 1974). Early dental management can be very beneficial in such cases, not only in moderating the stigmas but also softening the unpleasant facial profile which can give the child a better chance of special acceptance which is his and our ultimate goal.

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