Abstracts of Current Literature

Anthropology

CONSTITUTIONAL ASPECTS OF ORTHODONTIC PROBLEMS. HEINRICH BERGER. Am. J. Orthodont. and Oral Surg. 26:566, June, 1940. (See Case Analysis and Diagnosis.)

Case Analysis and Diagnosis

CONSTITUTIONAL ASPECTS OF ORTHODONTIC PROBLEMS. HEINRICH BERGER. Am. J. Orthodont. and Oral Surg. 26:566, July, 1940.

Berger describes three body types; leptosomian, athletician, and pyknician. Each constitutional type is connected with a facial profile, the leptosomian has characteristically a receding mandible; the athletician a prognathism of the mandible; and the pyknician is associated with a straight profile, the golden rule profile of textbooks. Treatment from the standpoint of constitutional limitations is discussed, as well as early treatment. Since types are not usually distinct until early adolescence the author believes in waiting for the unfolding of type and eruption of the premolars before starting treatment.

Little mention is made of the athletician, and a fourth type the "type cerebral" is introduced in the latter part of the article. The "type cerebral" is considered to be opposite the athletician, and is characterized by the face and body being generally hypoplastic with a well developed cranium. "Type cerebral" usually presents large teeth in small jaws.

LEWIS, Dayton

Case Reports (See Treatment and Retention)

Dental Caries

ASSOCIATION OF DENTAL CARIES IN CHILDREN WITH SEX, AGE AND ENVIRONMENT. HILDA KAISER and B. R. EAST. J.A.D.A. 27:1430, Sept. 1940.

Caries incidence tables are prepared showing the age incidence and the sex incidence for children residing in rural areas.

PREWITT, Lexington

*CARIES: A NEW THEORY OF THE CAUSE. PINCUS, PAUL. Illinois Dent. J. 9:80-88. 1940.

The importance of the organic compounds in the enamel is stressed in relation to dental caries. (CA, 34:2918.)

†THE DIET OF ADOLESCENT GIRLS WITH SPECIAL REFERENCE TO NUTRITIONAL STATE AND DENTAL CARIES. LEONA M. BAYER, J. Pediat. 16:56, Jan. 1940.

Data dealing with dietary habits, nutritional status and dental caries, collected during a study of 80 normal adolescent girls examined at the ages of 11.5, 13.5 and 17.5 years, are presented. The diets were generally poor, containing on the average only about two thirds of the recommended essentials. The greatest deficiency was in vegetables, fruits, milk and whole cereals. The impression given by the menus of the group was that the deficiency in nutritionally desirable foods was largely made up by starches and sweets. Half the group were judged as having optimum weight. These girls were shown to have a diet which from the standpoint of nutritional adequacy was slightly superior to that of girls who were overweight and underweight. No statistical relation between poor teeth and poor diet could be demonstrated for this group. It was felt that probably no diets were good enough consistently to exert a protective influence against dental caries.

FROM AUTHOR'S SUMMARY

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*THE ECONOMIC STATUS OF THE COMMUNITY AND THE DENTAL PROBLEM OF SCHOOL CHILDREN. H. KLEIN, Pub. Health Rep. 55:187, Feb. 2, 1940.

This report is of 40 urban communities embracing 200,000 children. The evidence available seems to indicate that the intrinsic tendency of the child to experience attacks on the permanent teeth does not depend on the economic status of the community in which the child lives. The volume of dental care in the form of fillings in the permanent teeth increases markedly with rise in the economic level of the community. The odontothanatotic rate (the number of permanent teeth extracted and indicated for extraction per hundred children) diminishes as the economic level of the community rises.

SANFORD, Chicago

*FACTORS IN SALIVA CORRELATED WITH DENTAL CARIES. KARSHAN, M. J. Dent. Research 18: 395-407. (NAR, 9:1055.)

Dental Hygiene and Public Health

†THE ECONOMIC STATUS OF THE COMMUNITY AND THE DENTAL PROBLEM OF SCHOOL CHILDREN. H. KLEIN, Pub. Health Rep. 55:187, Feb. 2, 1940. (See Dental Caries.)

Endocrinology

THE INFLUENCE OF THE ENDOCRINES ON THE TEETH AND JAWS. M. D. LEVY. Am. J. Orthodont. and Oral Surg. 26:671, July, 1940.

This is a brief review of the various glands of the endocrine system, their functions under normal conditions, and a consideration of the controlling effect of the glands upon growth during fetal life and infancy and the mechanism at puberty. Schour, Marinus, and Wolf are quoted, and two charts are shown from Wolf's text on endocrinology.

LEWIS, Dayton

*IS DELAY IN THE DEVELOPMENT OF THE OSSEOUS CENTERS PATHOGNOMONIC OF THYROID HYPOFUNCTION? O. GABINUS. Acta paediat. 25:59-68, 1939. (See Pathology.)

Etiology

THE CONSTITUTIONAL FACTOR IN SKULL FORM AND DENTAL OCCLUSION. A. LEROY JOHNSON. Am. J. Orthodont. and Oral Surg. 26:627, July, 1940.

Crossbreeding contrasted dog types at the Cornell Experimental Farm has produced material which reveals the influence of genetic constitution on skull form and dental occlusion. The purpose of the article is to show that germinal constitution must also be taken into account in the search for the etiologic factors of malocclusion of the teeth. Illustrations of cross-bred dogs and dog skulls are numerous. A Bassethound was bred with an English Bulldog, a Dachshund with a Boston Terrier, and Dachshund with a Pekingese.

Evidence presented follows closely the Mendelian principles of inheritance. In each case the second generation shows in skull form a decided similarity to the long-muzzled, normal ancestral type as dominant over the short-muzzled form. The third generation is greatly diversified. It ranges from a type comparable to the long-muzzled, pure bred grandparent, toward the recessive modified type, though never nearing it in the same degree as those at the other end approach their long-muzzled ancestors.

Tooth form is unquestionably the most stable character of the dog skull. It is demonstrated that in genetic constitution the maxillary structures are independent of the mandible, the teeth are independent of both. In the light of evidence presented on the relation of germinal constitution to skull form, there is little room for doubt that the primary factors of dental malocclusion in the dog are in the main an inherited condition. The internal environment of several dogs was changed by removal of some endocrine glands, but the skull form was not changed to any extent although there was evidence of a general arrest of growth or change in size.

LEWIS, Dayton

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*The Importance of Preserving the Temporary Teeth. Roos, B. Acta paediat. 26:362-371. 1939.

The importance of caring for the first dentition has long been appreciated in Sweden, and many clinics have been established there to encourage this. The milk teeth are important not only for the mastication of the child's food, but also for the proper development of speech, and for preparing the mouth to accommodate the permanent teeth. Caries of the temporary teeth produces harmful effects in several ways: chewing is interfered with; infection of the pulp may lead to all the danger of focal sepsis; and the infection may damage the rudiment of the permanent teeth. Prophylactic measures are of first importance, but should caries develop, conservative treatment is urged. (NAR, 9:1054.)

Growth and Development

Development of Face and Dentition in its Application to Orthodontic Treatment. Milo Hellman. Am. J. Orthodont. and Oral Surg. 26:424, May, 1940. (See Treatment and Retention.)

Miscellaneous

*Acid Solubility of Human Enamel. J. F. Wolker. J. Dent. Research 19:1-10, 1940.

Gravimetric determinations of the solubility of human enamel in an AcOH-AcONa buffer of pH 4.0 in 1 hour showed deciduous enamel to be more soluble than permanent enamel, with no striking difference between enamel from carious and from noncarious teeth or between young and old permanent enamel, but a possible decrease in the solubility with age. 18 references. (CA, 34:2903.)

Nutrition and Metabolism

†Calcium Metabolism and Teeth. Rudolf Kronfeld, Mil. Surgeon. 86:250, March, 1940.

In summarizing present day knowledge of this subject, Kronfeld states:

". . . attempts to improve the structure of erupted teeth by means of calcium and phosphorus or vitamin preparations are useless. Even if the calcium were assimilated by the body there is no way in which it could be incorporated into the enamel of fully formed erupted teeth.

"The important period for the structure and composition of the enamel of the permanent teeth is from birth to the age of five or six years. Especially significant with respect to the first permanent molars are the first two years of life. During this formative period a diet well fortified in the necessary building elements is essential for strong, well built teeth. The best natural source of calcium is milk. Vitamin D, which is necessary for the proper assimilation of calcium by the body, is found in milk, butter, egg yolk, cod liver oil and other fats; if necessary it can be supplemented in the form of vitamin D concentrates.

"Once the teeth have erupted they have just as good or just as bad a structure as they are going to have for the rest of their life.

"There is no conclusive statistical evidence that the incidence of caries during pregnancy is greater than the incidence in non-pregnant women of corresponding age . . . there is no evidence of calcium withdrawal from the mother's teeth."

Sanford, Chicago

*The Diet of Adolescent Girls with Special Reference to Nutritional State and Dental Caries. Leona M. Bayer, J. Pediat. 16:56, Jan. 1940. (See Dental Caries.)

Pathology

A Case of Familial Craniofacial Dystrophy. A. Austregesilo. Rev. neurol. 72:165, Aug., 1939.

A typical case of oxycephaly is presented. Two sisters showed similar changes in the osseous development of the skull.

Daffinee, Boston

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†Cleidocranial Dysostosis. R. Debré, M. Lamy and G. Sée. Ann. de méd. 46:5, June, 1939.

Study of 5 cases of cleidorcranial dysotosis disclosed that the clavicular and cranial malformations are accompanied as a rule by other malformations of the bony structure, among the pelvic malformations are the most frequent, with those of the face and spinal column following. In discussing the origin of cleidocranial dysostosis, Debré and his associates state that it is not connected with any infection, in particular not with syphilis, that it is not a bone disease of membranous origin, that it is not connected with a malformation or lesion of the uterus or the membranes of the ovum and that it is not the consequence of oligohydramnios. Cleidocranial dysostosis is a genotypic dystrophy, which seems to be transmitted as a dominant mendelian characteristic.

J. A. M. A.

Congenital Hemihypertrophy. J. Henson. South African M. J. 13:743, Nov. 11, 1939.

The author briefly reports a case of congenital hemihypertrophy in a girl 14 years of age.

Gonce, Madison, Wis.

*Growth Disorder of Skull in Mongolism. C. E. Benda. Am. J. Path. 16:71-102, 1940.

To the two conditions cretinism and chondrodysplasia known to be associated with a marked shortening of the length of the base of the skull, Benda adds a third entity, mongolism, which his studies have proved to be associated with a failure of the development of the skull in length. In chondrodysplasia growth of the base of the skull is arrested because of lack of development of the cartilage, which is absorbed early and is replaced by ossified tissue. In cretinism growth of the bones of the skull is delayed because of lack of transformation of cartilage into bone. The cartilaginous spaces in cretinism are open much longer than normally. In mongolism the situation is much more complicated. Benda studied bones from eight cases of mongolism. These comprised the synchondrosis sphenooccipitalis from six cases, the synchondrosis spheno-ethmoidalis from two cases and vertebrae from six cases. There is a strong indication that the growth disorder in mongolism is due to the absence of agents which induce differentiation and growth. It is generally assumed that these factors are related in some way to the pituitary gland. Lauche expressed the opinion that the growth disorder in mongolism is the reverse of acromegaly. Studies of the pituitary gland led Benda to the conclusion that an insufficiency of the anterior lobe is responsible for the postnatal growth disorder in mongolism. Microscopic study demonstrates that proliferation of the epiphysial cartilage is absent or insufficient. The growth disorder in mongolism is not restricted to the cartilaginous epiphysial lines but involves also the membranous bones. An analysis of the observations suggests that the development of the growth disorder known as mongoloid deficiency appears to be dependent on a congenital absence or deficiency of those agents which, either from hypophysial or from extrahypophysial sources, stimulate differentiation and growth. (J. A. M. A., 114:1695)

*Hemiatrophy of the Face and Its Treatment. F. Zatloukal. Casop. lék. česk. 76:553 May 7, 1937.

A short review of the literature is followed by a report of 5 cases. Facial hemiatrophy is characterized by atrophy of the soft parts and the splanchnocranium, involvement of half the face and facial asymmetry. Congenital and acquired types are recognized. The acquired types are divided into those due to pressure of pathologic processes in the soft parts, traumatism and surgical or general treatment; those *ex inactivitate* in cases of paresis of the facial nerve; those due to disease of the jaw bone, and those due to essential hemiatrophia facialis progressiva. The condition in the first case followed pressure due to a wide scar. In the second it was due to pressure following a lupus scar. In the third it followed scleroderma scar formation, and in the remaining 2 it was essential progressive facial atrophy. The author stresses painstaking care of the tissues to obtain the best cosmetic results. Tube grafts from the abdomen and transplants of fat, cartilage and bone were used.

Stulik, Chicago.

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*Hereditary Cleidocranial Dystosis with Features of Ocular Hypertelorism. Eli Rubens, Arch. Pediat. 56:771, Dec. 1939.

Two cases of cleidocranial dysostosis with features of hypertelorism are reported. They were seen in members of the same family, a girl aged 9 years and her father, aged 50 years. A family history of this disturbance can be traced for five generations.

Orr, Buffalo

*Is Delay in the Development of the Osseous Centers Pathognomonic of Thyroid Hypofunction? O. Gabinus. Acta paediat. 25:59-68. 1939.

Retarded osseous development, eruption of teeth, and ability to stand were observed in a boy 22 months old. His general condition was good and there was no sign of thyroid hypofunction or of rickets. Encephalography indicated that there was defective cerebral development. The case is considered to support Hohenner's hypothesis that the brain influences development of the osseous centers. (N.A.R. 9:992)

†Isolated Swelling of Lower Jaw Cured by Mercurial Treatment. Charles Ruppe and Georges Sée. Bull. Soc. pédiat. de Paris 36:492, July, 1938.

A girl 7 months old had a swelling of the right cheek, apparently in the lower jaw. Progressive improvement followed mercurial inunction. Despite negative serologic reactions and in the absence of any positive evidence the lesion was considered to be syphilitic on the basis of therapeutic result.

Benjamin, Montreal, Canada

Report of a Case of a Submerging First Molar. D. S. Sterrett. Am. J. Orthodont. and Oral Surg. 26:681, July, 1940.

After 2½ years of intermittent treatment the upper left first molar of this patient was noticed submerged 2 mm. from the occlusal line. Records taken four years after retention was placed indicate the molar had submerged 4 mm. The question is raised as to whether or not the posterior wall of the maxillary sinus, lying close to the first molar roots, is affecting the position of the tooth, and whether or not anything is growing in the antrum to affect its shape and size. X-rays are apparently negative.

Lewis, Dayton

Physiology

A Cinefluorographic Study of the Human Masticatory Apparatus in Function. Meyer Klatsky. Am. J. Orthodont. and Oral Surg. 26:664, July, 1940.

This essay deals with the physiology of mastication and its importance to the orthodontist. The stresses of mastication, the effect of food on mastication, and the effect of mastication on growth and development are the factors discussed. A cinefluorographic record affords an opportunity to see the internal phenomena taking place in the head and neck during the processes of mastication and deglutition.

Lewis, Dayton

†The Nature of the Oral Zone of the Newborn. K. Eissler. Ztschr. f. Kinderpsychiat. 5:81, Sept. 1938.

This includes a description of the movements of the various muscles concerned with nursing. The psychologic factors are discussed. Tracings are presented to portray the various curves expressed in the process of suckling by the infant, in response to different stimuli to the buccal surfaces.

Jahr, Omaha.

Psychology

Three to Six Appeal. W. J. Pelton. A.D.A. 27:1496, Sept., 1940.

This is a rather complete discussion of the mechanism, intensity, causes and pre-

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vention of childhood fears as encountered in the dental office. Numerous suggestions are made for transforming a visit to the dentist from something to dread to an exciting event.

PREWITT, Lexington

Speech

†ASSOCIATION OF STAMMERING AND THE ALLERGIC DIATHESIS. A. M. KENNEDY and D. A. WILLIAMS. Brit. M. J. 2:1306, Dec. 24, 1938.

Kennedy feels that there is a close association between stammering and the allergic diathesis. This diathesis may be in the child or in the family. Other associated conditions emotional imbalance, migraine, anxiety complexes, etc. The author studied a consecutive series of 100 children who suffered from stammering. With all except 1 there was a personal or family history of symptoms indicating allergy; 52 had a personal history of allergy, and 48 of these also had a positive history of allergy. Forty-eight gave no personal history of allergy but all except 1 had a positive family history.

The various allergic manifestations in the patients and their families have been tabulated and the closeness of the allergic inheritance noted.

A family history of stammering was obtained for 65 of the 100 children, and the closeness of the stammering inheritance has been noted.

ROYSTER, University, Va.

*THE IMPORTANCE OF PRESERVING THE TEMPORARY TEETH. B. ROOS. Acta paediat. 26:362-71, 1939. (Eee Etiology)

Temporomandibular Joint

BONE CHANGES RESULTING FROM EXPERIMENTAL ORTHODONTIC TREATMENT. CARL BREITNER. Am. J. Orthodont. and Oral Surg. 26:521, June, 1940. (See Treatment.)

Treatment and Retention

BONE CHANGES RESULTING FROM EXPERIMENTAL ORTHODONTIC TREATMENT. CARL BREITNER. Am. J. Orthodont. and Oral Surg. 26:521, June, 1940.

A series of experiments was performed on Macacus rhesus monkeys in which typical methods of orthodontic treatment were employed, the changes noted clinically, and the animals subsequently sacrificed for histologic study.

Two standard methods of treatment for Class II malocclusions were used; one, intermaxillary pressure by means of rubber bands and the other, jumping the bit. In histologic study the alveolar bone surrounding the posterior teeth, the angle of the jaw, and the temporomandibular joint were all studied. Changes were found in all of these regions to indicate, through the evidence of apposition and resorption, that the forces applied resulted not only in a mesial movement of the posterior teeth but also a reorientation of the jaw and changes in the form and position of the condyle head and the glenoid fossa.

Because of the changes observed at the angle of the jaw and the temporomandibular joint, a method using bite planes and splints is suggested to correct cases of Class II malocclusion by means of forward movement of the body of the mandible without movement of the teeth in the mesial direction from their alveoli.

LEWIS, Dayton

DEVELOPMENT OF FACE AND DENTITION IN ITS APPLICATION TO ORTHODONTIC TREATMENT. MILO HELLMAN. Am. J. Orthodont. and Oral Surg. 26:424, May, 1940.

The assumption is made that if orthodontic treatment were initiated during the period of maximum facial growth, results should be obtainable in shorter time with less effort of the orthodontist, more comfort to the patient, and greater satisfaction to all. Hellman's developmental stages published in 1927, are reviewed. From a series of 273 males, facial measurements were obtained, likewise from a group of 192 females. Subjects

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ranged from Stage II to, and including Stage V. Results indicate maximum growth for males occurs during the interval beginning with the eruption of permanent second molars and ending with the completion of their eruption. With females the maximum growth period is from the completion of eruption of permanent first molars and incisors to the shedding of deciduous canines and molars, and eruption of successors.

LEWIS, Dayton

MANAGEMENT OF UNERUPTED AND IMPACTED CUSPIDS. JOHN V. MERSHON and JOHN H. GUNTER. J.A.D.A. 27:1436, Sept. 1940.

The object of this paper is to bring out the operative and diagnostic procedures involved in uncovering and bringing impacted cuspids into the line of occlusion.

X-rays are the best means of diagnosing and locating the teeth in their relation to the other permanent teeth. X-rays also indicate the operative approach both in regard to the removal of bone and the direction of attachments and application of force. It is especially important that all bone be removed over the greater diameter of the tooth from the neck to the incisal tip. The pressure put on the canine with an orthodontic appliance must always be away from the roots of other approximating teeth. The chief precaution is the avoidance of pressure in excess of that necessary to cause the tooth to move. It should not be continuous as eruption is normally intermittent.

Other subjects discussed are care of the wound, insertion of the pin and the mutual dependence of oral surgeon and orthodontist in the proper handling of these cases.

PREWITT, Lexington

A THREE-DIMENSIONAL CONSIDERATION OF OCCLUSION. HOWARD ELLIOT STRANGE. Am. J. Orthodont. and Oral Surg. 26:787, Aug. 1940.

The analysis of any malocclusion requires a three-dimensional analysis, and an observation with particular reference to the third dimension, axial inclination of teeth. In the opinion of the author Class II treatment by means of bite plane is not efficacious because perverted axial inclination of the lower buccal teeth is unchanged. Proper inclined plane relationship must be obtained through correct axial positioning; a normal force resultant will then exist.

LEWIS, Dayton

TREATMENT REQUIRING TIPPING AND BODILY MOVEMENT OF TEETH. RICHARD A. SMITH. Am. J. Orthodont. and Oral Surg. 26:779, Aug. 1940.

This is a report of two cases in which the McCoy open tube was used as an aid in bringing about the desired tooth movement. The first case is one in which a tipping movement of the maxillary incisors was necessary in the course of treatment. The second case is one in which root movement was necessary to bring about a correct axial alignment of the maxillary incisor teeth.

LEWIS, Dayton