ABSTRACTS

Bluestone, C. D., and H. Felder, Symposium: otolaryngological considerations in the rehabilitation of the cleft palate patient. The role of the otolaryngologist in secondary surgical management of the cleft palate patient. *Trans. Amer. Acad. Ophthal. Otolaryngol., 73*, 715–719, 1969.

The otolaryngologist has an important role in the secondary surgical management of the cleft palate patient. His functions include (1) early detection and prompt correction of chronic non-suppurative otitis media in the infant and diligent follow-up of this condition; (2) decision as to preservation or removal of adenoid tissue; (3) correction of deformities of the nose and nasal septum; (4) definitive evaluation of hoarseness by either indirect or direct laryngoscopy; and (5) correction of velopharyngeal insufficiency by either Teflon injection pharyngoplasty or by pharyngeal flap procedure. (authors' summary/Gregg)

Bularska-Gallas, M. D., Ocena wieku kostnego u dzieci z rozcszpem podniebnienie pierwotnego i wtornego (Evaluation of the bony age in children with primary and secondary cleft palate). *Czas. Stomat., 21*, 6, 1968.

In 67.2% of the patients studied, a

retardation of bony age was noted. The retardation ranged from 1 to 4 years. The smallest retardation was found in children with clefts of the primary palate. (Penkava)

Chaube, S., and M. L. Murphy, The teratogenic effects of 5-fluorocytosine in the rat. *Cancer Res., 29,* 554–557, 1969.

Single i.p. injections of 5-fluorocytosine (5-FC) at doses ranging from 500 to 4000 mg/kg of maternal body weight given to pregnant Wistar rats on Days 9–12 of gestation produced gross malformations which included cleft palate, cleft lip, deformed appendages, micrognathia, and short kinky tails in fetuses from rats treated only on Day 11 or 12 which survived to Day 21 of gestation. No malformations were observed in fetuses at 21 days with any of the doses (500–4000 mg/kg) given to the pregnant rat on Day 9 or 10 of gestation. 5-FC was in the range of 2416–9000 times less effective in producing malformations in the 12-day fetal rat than its deoxyriboside, 5-fluorodeoxycytidine. The types of malformations produced by the two compounds, however, were similar. (authors' summary)

Cosman, B., and G. F. Crikelair, Midline branchiogenic syndromes. *Plastic reconstr. Surg., 44,* 41–48, 1969.

3 cases are presented in which there were varying degrees of tongue absence, marked mandibular hypoplasia, a bar of tissue spanning the lingual-alveolar and labial-alveolar sulci and a maldevelopment of the lower lip. These deformities can be fitted into the spectrum of ventral midline branchiogenic syndromes between the congenital aglossia syndrome and the midline lip-mandible-tongue cleft syndrome. The latter is shown to have a relation to the deformities in the midline cervical cleft and the thyroglossal duct syndromes. These considerations tend to suggest that midline branchiogenic anomalies are a group and are characterized by a continuum of congenital malformations. (Cosman)

DeMyer, W., and I. Baird, Mortality and skeletal malformations from amniocentesis and oligohydramnios in rats: cleft palate, clubfoot, microstomia, and adactyly. *Teratology, 2,* 33–37, 1969.

Mortality and malformations were noted in the fetuses of three groups of pregnant Long-Evans rats. Alternate fetuses in each born were subjected to amniocentesis on days 14.5, 15.5, and 16.5 of gestation. When examined on day 21.5 of gestation, all 27 fetuses of five females operated upon on day 14.5 were dead. Mortality among 35 fetuses of six females operated on day 15.5 of gestation was 80% while mortality among 31 fetuses of five females was 26% in the 16.5-day group. Malformations were also most frequent among fetuses subjected to amniocentesis at the younger fetal ages. Cleft palate was only seen in the 15.5-day group, otherwise the types of malformations were similar in all three groups. Compared to controls the fetuses subjected to amniocentesis were smaller and had peculiar, thickened trunks and necks. They had short, stiff extremities with clubfeet, primitive digits or adactyly; scoliotic tails; microstomia and short umbilical cords. The mechanical effects of intrauterine immobility and oligohydramnios are involved in these malformations. (*Birth Defects: Abstracts of Selected Articles,* The National Foundation-March of Dimes, *6,* (1), Apr. 1969, abstract number NF-MOD 69 275.)

Degenhardt, K. H., J. Franz, and H. Yamamura, A model in comparative teratogenesis: dose response to 5-fluoro-2-deoxycytidine (FCdR, Ro 5-1090) in organogenesis of mice of strains C57BL/6JHanFfm and C57-BL/10JFfm. *Teratology, 1,* 311–334, 1968.

Single doses of FCdR (mg/kg), ranging from 0.156–10, from 0.312–40, or from 0.625–20, were injected intraperitoneally into pregnant mice of strain C57BL/6JHanFfm, substrain C57BL/10JFfm-±1d, and strain C57BL/10JFfm, respectively. Injections were made on the 8th (stage 8), 9th (stage 9), or 11th (stage 11) day of onset of pregnancy, respectively. (The substrain C57BL/10JFfm-+1d differed at the limb deformity gene locus.) Preliminary tests with controls showed the variability of embryological development at stages 8 and 9. A total of 1703 fetal skeletons was analyzed for abnormalities. The findings confirmed that the toxic and teratogenic effects of FCdR are clearly stage- and dose-dependent. However, the relations between the responses changed from stage to stage of pregnancy, and FCdR showed either a narrow or a wide teratogenic dose range, depending on the stage-time of administration. At stage 8 there was a high incidence of single regional defects in the vertebral column, and multiple regional defects in the skull and vertebral column; at stage 9 there was also a high rate of vertebral column defects, but at higher doses there were multiple regional defects in all skeletal areas—skull, vertebral column, and limbs. At stage 11 the teratogenic effects again began with single regional defects of the vertebral column, produced multiple regional defects in vertebral column and in the limbs at higher doses, and at the highest doses the multiple regional defects affected all three areas. (Very high doses caused fetal resorption or death.) Where malformations were multiple, the constellation of regional defects depended on the stage, as well as on the dose, with special sensitivity of the head primordia at stage 8 and of the limbs at stage 11. The malformations observed included: hypoplasia and partial aplasia of vertebral segments, hypoplastic jaw defects; cleft palate; amelia; polydactyly; and triphalangy. There was also hypoplasia of fingers, toes, radius, ulna, tibia, and femur. (*Birth Defects: Abstracts of Selected Articles*, The National Foundation-March of Dimes, *6* (1), Jan. 1969, abstract number NF-MOD 69 16.)

Fara, M., and M. Brousilova, Experiences with early closure of velum and later closure of hard palate. *Plastic reconstr. Surg., 14,* 134–141, 1969.

The rationale for an early closure of the velum and a delayed closure of the hard palate (Schweckendiek's method) is presented. The authors have carried out this approach in the treatment of 70 children operated upon in 1960 and 1961. 58 children were followed from the closure of the lip and velum done simultaneously—at age 8 months—to the closure of the hard palate at age 6 years. The cleft in the palate was reduced spontaneously on the average by 4 mm. However, although the anatomical and functional appearance of the reconstituted velum was satisfactory in most patients, no case developed perfect velopharyngeal closure or even closure of high quality. The authors were forced to employ retroposition of the palate and pharyngofixation in a majority of cases combining this with a pharyngeal flap. Difficulty was also encountered in the closure of the anterior palate defects. Thus the authors conclude that the theoretical advantages of two stage palate repair are not compensation enough for the real deficiencies encountered. The primary suture of the velum has not come up to expectations either from the point of view of speech development, or from that of simplifying the closure of the residual cleft in the hard palate. A one stage closure of the palate at age 3 years is considered more beneficial to patients than the two stage procedure. (Cosman)

Glanville, E. W., Nasal shape, prognathism and adaptation in man. *Amer. J. phys. Anthropology, 30,* 29–37, 1969.

The association between nasal shape, prognathism, and the shape of the maxillary dental arch has been examined within samples of Negro and European skulls. Prognathism tends to be accompanied by an increasingly broad and short nose. Particularly high correlations exist between nasal height and the length of the cranial base and between nasal breadth and the distance which separates the upper canine teeth. Regression analysis has yielded quantitative estimates of the effect on a given dimension of variation in one or more of the others. It seems probable that both nasal shape and the maxillary dental arch-prognathism complex may be subject to direct selection by environmental stress. The morphological association between these complexes suggests that a part of the interpopulation variation in prognathism may be a secondary effect of selection acting on the nose. Similarly, selection acting on the dental arch or maxilla could produce secondary changes in the nasal index (i.e., a non-adaptive component of nasal variation). (author's summary/Gregg)

Goda, S., The role of the speech pathologist in the correction of tongue-thrust. *Amer. J. Orthod., 54,* 852–859, 1968.

The author discusses two primary issues concerning tongue-thrust, viz., the extent to which the speech pathologist should handle the problem of tongue-thrust, and appropriate therapeutic procedures to follow in its modification. The five goals of therapy as employed by the author are outlined. He mentions that the child can be dismissed from therapy when he demonstrates easy swallowing of saliva, liquids, and food when he reports satisfaction with his ability to swallow all solids at home. After ten to twelve meetings with weekly assignments, the average child usually feels this satisfaction and can be dismissed. (Noll)

Gorlin, R. J., and H. Sedano, Trisomy D_1 (13 trisomy). *Modern Med., 37,* 240–241, 1969.

This malformation occurs in about 1: 15,000 live births from either non-disjunction or translocation and has an average survival time of 100 days. Although numerous anomalies may occur, the most constant features are jitteriness, apneic spells and developmental retardation. About 75% of these cases have cleft lip or palate and microcephaly with or without scalp defect. Eye and ear defects are found and there is often a capillary hemangioma on the forehead. Postaxial polydactylia, more frequently of the hands, occurs in 75% and at least 50% have flexion deformity of the fingers with retroflexible thumbs. Cardiac defects are common and usually the cause of death. Genitourinary anomalies, such as undescended testicle, biseptate uterus, polycystic renal cortex, are common. A characteristic feature of this defect is an abnormal elevation of fetal hemoglobin. The authors have presented a discussion of this syndrome accompanied by illustrative photographs. (Gregg)

Hardy, J. C., R. Netsell, J. W. Schweiger, and H. L. Morris, Management of velopharyngeal dysfunction in cerebral palsy. *J. speech hearing Dis., 34,* 122–136, 1969.

The authors report an 8-year experience with the surgical and prosthetic management of velopharyngeal dysfunction in cerebral palsied individuals. Children having cerebral palsy with associated palatal paresis were studied: six having been provided with a pharyngeal flap, and eleven having been provided with an oral speech prosthesis (ten with a specially fitted palatal-lift type and one with a bulb-obturator type). Speech mechanism improvement, as evaluated by articulation testing and intraoral air pressure-nasal air flow technique (earlier described by Netsell) was successful in three of six cases studied. Of those children managed prosthetically, ten of eleven procedures were considered successful. The common contributing variable in the three unsuccessful pharyngeal flap cases was described as "a

lack of intrinsic motivation for self improvement". The severity of neuromuscular involvement and intellectual status of the subjects were not considered to be significant variables. Cinefluorographic films indicated that the pharyngeal flaps were inserted inferiorly to the palate on the posterior pharyngeal wall. The authors believed that such an anatomical relationship may have hindered palatal movement. The authors concluded that prosthetic management of cerebral palsied individuals with velopharyngeal dysfunction was more desirable than surgical management because there appears to be a greater probability of success with the former procedure. Approaches used to construct the palatal-lift type prosthesis as well as problems that have been encountered were discussed. Case histories of the six surgical cases and five of the eleven prosthetically managed cases were also presented. (Mason)

Hollman, K., Theoretical study of the inheritance of cleft lips, jaws and palates. *Plastic reconstr. Surg., 44,* 167–170, 1969.

The details of a theoretical approach to genetic investigation in the area of cleft lip/palate malformations are presented. (Cosman)

Hoopes, J. E., A. L. Dellon, J. I. Fabrikant, and A. H. Soliman, The locus of levator veli palatini function as a measure of velopharyngeal incompetence. *Plastic reconstr. Surg., 44,* 155–160, 1969.

The position of the levator insertion in the palate can be determined by measurements carried out on frame by frame analysis of lateral cineradiographs. The more anteriorly the levator veli palatini is inserted into the soft palate, the greater is the degree of velopharyngeal incompetence and the greater is the degree of hypernasality. Comparison of 9 normals and 10 submucous clefts and cleft palate patients demonstrated this result to a statistically significant degree. (Cosman)

Jabaley, M. E., and M. T. Edgerton, Surgical correction of congenital midface retrusion in the presence of mandibular prognathism. *Plastic reconstr. Surg., 44,* 1–8, 1969.

The details of the radical improvement of a retruded midface by means of a variation on the principle of craniofacial separation are presented. The applicability to the cleft lip/palate patient with relative prognathism is clearly evident. (Cosman)

Juberg, R. C., and J. R. Hayward, A new familial syndrome of oral, cranial, and digital anomalies. *J. Pediat., 74,* 755–762, 1969.

A sibship of 6 from nonconsanguineous, normal parents is described in which 5 had one or more of a specific group of oral, cranial, and digital anomalies. The 2 brothers had cleft lip and palate, microcephalus, hypoplasia and distal placement of both thumbs, and bilateral elbow deformities which limited extension. One of the two brothers had toe anomalies which were also present in 3 of the 4 sisters. The other defects among the sisters included microcephalus and interphalangeal inflexibility of both thumbs in one and an occult cleft lip in another. This constellation of defects is most likely due to a single, autosomal recessive gene with variable expressivity in the homozygote. (authors' summary)

Kochhar, D. M., Studies of vitamin A-induced teratogenesis: effects on embryonic mesenchyme and epithelium, and on incorporation of h^3-thymidine. *Teratology, 1,* 299–310, 1968.

Pregnant black-hooded Long-Evans rats were treated with 60,000 I.U. of vitamin A acetate on days 10, 11, and 12 of gestation, and tissue differentiation and development were subsequently studied in their 13-day embryos. These embryos showed varying degrees of growth retardation (extensive in some), but little difference from controls in their level of organogenesis. Cell pro-

liferation in these embryos, studied by uptake of tritiated thymidine, showed major retardation in the liver, in the loose mesenchyme of the head, and in the posterior part of the palatine shelves, but was only slightly reduced in the trigeminal nucleus, while the stomach and cranial skin showed no slowdown. The treated embryos showed abnormal dorsal curvature, exencephaly, and cellular disorganization. Facial tissue differentiation was affected by epithelial proliferations, probably representing exaggerated and premature dental laminae. This abnormal epithelial development disrupted the synchronized and spatially organized normal relations of the surrounding tissues, resulting in malformation of palate and teeth. Likewise, the vitamin A-induced cranial malformations appeared to occur because of the disrupted inductive relation between epithelium and mesoderm requisite for normal development. The high surface activity of vitamin A and its effect on membrane permeability are discussed, and its possible mechanism of action is considered. (*Birth Defects: Abstracts of Selected Articles*, The National Foundation-March of Dimes, *6* (1), Jan. 1969, abstract number NF-MOD 69 56.)

Lauterstein, A. M., and S. Pruzansky, Tooth anomalies in the oral-facial-digital syndrome. *Teratology*, *2*, 137–146, 1969.

The relation of alveolar clefts to morphogenesis of teeth in the line of the cleft was explored. The oral-facial-digital (OFD) syndrome is a unique experiment of nature wherein the position of the cleft is posterior to where it occurs in the more common types of cleft. In the latter the cleft occurs anterior to the maxillary canine and affects the number and form of the lateral incisor. In the OFD syndrome the cleft occurs posterior to the canine with duplicate canines, sometimes "T"-shaped, occurring on either side of the alveolar cleft. These findings suggest a common time-space relation between alveolar clefting and tooth-bud formation, probably occurring in the sixth week of embryonic life. (authors' summary)

Lubker, J. F., Velopharyngeal orifice area: a replication of analog experimentation. *J. speech hearing Res.*, *12*, 218–222, 1969.

An equation for calculating velopharyngeal orifice area during speech production was proposed by Warren and DuBois in 1964. Their equation is a modification of the Theoretical Hydraulic Principle and the Hydrokinetic Equation. In the present report, the author subjected this equation to further controlled model experimentation. The instrumentation involved enabled the measurement of several airflow rates and pressure differentials for a variety of orifice sizes. The results of this experiment indicate that, given the pressure differential across the orifice and the rate of airflow through the orifice, the area of the orifice can be predicted with considerable accuracy, thus strongly supporting the use of the Hydrokinetic Equation for predicting velopharyngeal orifice size. (Mason)

Lubker, J. F., and H. L. Morris, Predicting cinefluorographic measures of velopharyngeal opening from lateral still X-ray films. *J. speech hearing Res.*, *11*, 747–753, 1968.

This study dealt with the accuracy of predicting measures of velopharyngeal opening during cinefluorographic films by measures obtained from single exposure x-ray films. Thirty-seven subjects who had undergone cleft palate surgery were selected for study and subdivided into three groups on the basis of velopharyngeal orifice size as demonstrated on the lateral still X ray. Group A consisted of nine subjects who obtained closure on each sustained /u/ and /s/ film. Group B

contained fourteen subjects who demonstrated up to a 4.99 mm gap, while Group C contained fourteen subjects who demonstrated a 5.00 mm gap or more. Lateral still X rays were taken of each subject during sustained /u/ and /s/, and at rest. Cinefluorographic films were taken during sustained /u/, /s/, and while repeating a prepared sentence. The results indicated that still /s/ correlated higher with the other measures than still /u/. Coefficients between the cine /u/ and /s/ and the other measurements obtained were generally greater than those between the still /s/ and /u/. The majority of correlation coefficients were in the order of 0.70. Mean differences between still /u/ and 6 of the other 7 measurements obtained were statistically significant. No significant differences were noted between still /s/ and the other variables. The authors generated the following conclusions: 1) the purpose of the experiment should dictate the justification for using a measure of velopharyngeal opening taken from still, lateral x-ray films to predict amount of velopharyngeal opening as shown on cinefluorography; 2) if the investigator intends to rank order individuals in terms of amount of velopharyngeal opening, a measurement taken from a still /u/ film or a still /s/ film is apparently adequate; and 3) if the investigator wishes to estimate the extent of velopharyngeal opening, per se, a measurement from only the still /s/ film seems justified. (Mason)

Lubker, J. F., and J. W. Schweiger, Nasal airflow as an index of success of prosthetic management of cleft palate. *J. dent. Res.*, *48*, 368–375, 1969.

A group of cleft palate patients with palatal prostheses, and noncleft controls were subjected to nasal airflow tests, breath pressure ratios, articulation scores, and listener judgments. This study indicated that nasal airflow is not the only variable, and is not a sufficient variable for predicting velopharyngeal competency for speech. However, nasal airflow does have some value in the gross differentiation among prosthetically managed cleft palate speakers. Nasal resistance and oral port constriction must also be considered when evaluating velopharyngeal competency. (Luban)

McCall, G., The assessment of lingual tactile sensation and perception. *J. speech hearing Dis.*, *34*, 151–156, 1969.

This article defines a series of tactile sensory skills that appear to have a priori relevance to the acts of speaking, chewing, and swallowing. Test procedures appropriate for the assessment of a number of these sensory skills are discussed, with guidelines to expected performance by normal persons on the tests. The article is geared especially to dental and speech specialists and others interested in the importance of studying the relationship between oral sensory functioning and motor behavior. (Mason)

McEvitt, W. G., K. W. Sproule, J. H. Hicks, and E. P. Hawthorne, Jr., Closure of anterior palate by spontaneous tissue growth. *Plastic reconstr. Surg.*, *44*, 125–133, 1969.

The authors report the use of a Silastic prosthesis in 16 unilateral complete cleft lip patients. Inserted over the palate and into the anterior cleft of the newborn infant, the appliance is easily removable, facilitates feeding, and is tolerated for at least 1 year. It seemed to prevent collapse of the jaw segments but it is not recommended as an instrument for moving already malaligned jaw segments. Of great interest to the authors was their observation that after lip repair and during the first year of life, the tissues adjacent to the anterior part of the cleft grew in and obliterated the space. The result is said to have been good lip support and greatly improved occlusion with reduction of the need for later realignment and bone graft-

ing. The length of follow up involved is not stated. (Cosman)

McWilliams, B. J., Symposium: otolaryngological considerations in the rehabilitation of the cleft palate patient. The role of otolaryngological problems in speech disorders associated with cleft palate. *Trans. Amer. Acad. Ophthal. Otolaryngol., 73,* 720–723, 1969.

It is often assumed that disorders of communication are invariable sequellae of cleft palate as a clinical entity. Fortunately, a sizeable group of cleft palate patients now develop speech patterns which are well within normal limits through methods of primary management and greater knowledge of total patient care. However, some patients develop speech which is far from desirable, traditionally attributed to defects in the velopharyngeal valving mechanism. Recently, empirical evidence and research findings have led clinicians to recognize the necessity for diagnostic procedures designed to determine the importance of other less obvious factors associated with the problem. Four major aspects of the complicated speech behavior presented by these patients are: 1) language deficits, 2) laryngeal disorders, 3) septal deviations, 4) adenoidal masses. The relation of these four problems and the place of the otolaryngologist in their solution is discussed briefly. The position of the otolaryngologist on the cleft palate team is emphasized. (Gregg)

McWilliams, B. J., and R. H. Musgrave, EENT considerations in the management of children with cleft palate. *EENT Digest, 31,* 61–67, 1969.

The clinical management of children with cleft palates should involve a number of specialists working actively together. An important member of the cleft palate team is the otolaryngologist who accepts the responsibility for long term management of ear problems, is involved in the study and management of voice disorders, particularly hoarseness, has a contribution to make toward the solution of problems surrounding the valving mechanism, and is vital in assessing and treating problems of the nasal airway. The ophthalmologist, a relatively newcomer to the cleft palate team, plays a significant role in attempting to assess and develop a body of knowledge relative to the visual problems of cleft children. (authors' summary/Gregg)

Matthews, J., Symposium: otolaryngological considerations in the rehabilitation of the cleft palate patient. The team concept of management. *Trans. Amer. Acad. Ophthal. Otolaryngol., 73,* 705–708, 1969.

The team concept in the handling of cleft palate patients has been employed in Pittsburgh for about 20 years. It started with a group of individuals working together because of a realization that they as individuals did not have as many answers as they desired in caring for their patients. Benefits realized from the team concept of management of patients included: 1) improved care for the patients, 2) an increased awareness of the importance of the specific order of various types of rehabilitative interventions, 3) concern with the *total* child, the family of which he is a part, and the community in which that family is a member, 4) keeping team members alert to new approaches and to question some established procedures which have been used traditionally, 5) the organized efforts have had beneficial effects in the realm of research, 6) the team concept has helped create a good teaching environment for students from all of the disciplines represented on the team, 7) the team concept of management has provided an atmosphere which is professionally stimulating and personally gratifying. (Gregg)

Meskin, L. H., and S. Pruzansky, Epidemiologic relationship of age of parents to type and extent of facial clefts. *Acta Chir. plasticae, 10,* 249–259, 1968.

An epidemiologic study relating parental age to type and extent of facial clefting indicated that maternal age, paternal age, or combinations of both were greatest in families with an isolated cleft palate child (CP) and were followed in descending order by control families, families with a child having cleft lip in combination with cleft palate (CL/CP), and families having a child with isolated cleft lip (CL). Such findings add to the inconsistencies noted in previous investigations concerning this variable and facial clefting. A heretofore unreported finding demonstrated that the mean parental age, individually or combined, of parents with children with complete CL or CL/CP was greater in every instance than the mean parental age of parents of children with the corresponding incomplete forms of the same entities. Such findings may be used to explain the inconsistencies noted in previous age analyses and, in addition, should warn the epidemiologist against the assumption of homogeneity in the selection of a sample for epidemiologic study of facial clefts. (authors' summary)

Miyazaki, T., T. Tsuji, J. Machida, T. Nishimura, T. Mimura, T. Matsuya, K. Yasui, and T. Wada, Speech clinic of cleft palate cases in Osaka University Dental School. *J. Osaka Univ. dent. Soc., 13,* 297–304, 1968.

Several questionnaires were given to the parents of 411 cleft palate children who received speech therapy at the Speech Clinic of Osaka University Dental School during the period of April 1967 to March 1968. It was found that birth weight, age of beginning to walk, and onset of speech were not much different from that of the control group. Concerning the attitudes of the parents, 78% thought that cleft palate speech would be corrected by plastic surgery without speech therapy, and 81% of the mothers did not recognize that their children's speech was seriously impaired. The authors believe on the basis of these observations that initially the speech therapist must get the family's cooperation. Speech therapy was aimed first to achieve velopharyngeal closure in order to obtain sufficient intraoral pressure, and then to correct the articulatory movements. Most of the children needed less than one year to achieve closure, and less than one and a half years to correct the articulatory movements. Technical details of speech therapy are also discussed. (Machida)

Mott, W. J., P. D. Toto, and D. C. Hilgers, Labeling index and cellular density in palatine shelves of cleft palate mice. *J. dent. Res., 48,* 263–265, 1969.

Cortisone-induced cleft palate fetal mice were administered tritiated thymidine by intraperitoneal injection of the mothers. This investigation shows that there were fewer labeled cells in the shelves of cleft-palate mice as compared with normal mice. In addition there was a greater cell density in the palatine shelves of the cleft palate mice. It is postulated that this increased cell density results from a deficient production of intercellular substance (acid mucopolysaccharides), which causes a reduction in cell pressure and a delay in movement of the palatal shelves. (Luban)

Nasileti, C. E., H. H. Spencer, J. Blakenship, and J. M. Walden, Cytogenetic studies of normal and cleft palate epitheliums in mice. *J. dent. Res., 48,* 590–594, 1969.

Chromosomal patterns in cells derived from the epitheliums of cortisone-induced cleft palate shelves did not differ from those seen in the normal palatal mucosa.

Metaphase figures from both sources were apparently normal. (Luban)

Netsell, R., Evaluation of velopharyngeal function in dysarthria. *J. speech hearing Dis., 34,* 113–122, 1969.

This study describes an instrumental clinical technique in evaluating the contribution of velopharyngeal dysfunction to the speech problems of those persons diagnosed as having dysarthria. This technique involves the simultaneous recording of intraoral air pressures, rate of nasal airflow, and the speech signal, to determine velopharyngeal competence during speech. The intraoral pressures are sensed through an open-ended polyethylene tube which is oriented perpendicular to the flow of air in the oropharynx, and a mask is placed over the subject's nose to trap the nasally emitted air. Both of these signals are shown on an oscillographic recording. The speech sample (a series of utterances) is selected to demonstrate possible effects on velopharyngeal function of rate of syllable repetition and/or phonetic context. Five different patterns of velopharyngeal dysfunction in dysarthria were presented in the article to illustrate the complexity of such dysfunction and the usefulness of the intraoral air pressure-rate of nasal airflow. The consonants /t/, /d/, and /n/, and the vowel /ʌ/ were used in various combinations, and at different rates as the speech utterances. It was shown that, in some dysarthric speakers, velopharyngeal dysfunction is evidenced as the speaker attempts to repeat the various syllables at the specified rates, and others demonstrate abnormality only during phonetic context variations. In addition to serving as a diagnostic tool, the pressure-flow technique could assist in the work of the prosthodontist in developing the optimal size of a palatal lift or obturator in management of velopharyngeal dysfunction. The prime advantage of this technique is the immediate graphic display of the presence or absence of velopharyngeal closure during any moment of the speech act, and thus sufficient remedial procedures may be used for the different patterns of dysfunction. (Mason)

Oka, M., Y. Kyoshoin, H. Tashiro, and H. Fujino, Effects of cleft lip and palate surgery on acid-base balance. *J. Japanese Stomat. Soc., 18,* 33–40, 1969.

It is necessary in managing cleft lip and/or palate children not to disturb the acid-base balance during and after the plastic operations. Thirty-nine children, aged from 3 months to 4 years-11 months, were selected, and the base-excess of blood was measured several times before, during, and after the operation by a curve nomogram (Siggaard-Andersen). The authors state that metabolic acidosis was found in those a) who were given only water after the meal of the previous evening, b) who suffered from fever of higher than 39° C, and c) whose hemorrhage during the operation was more than 12 g per kg weight. It was also found that the younger the child, the more severe was the metabolic acidosis. (Machida)

Paradise, J. L., and C. D. Bluestone, Symposium: otolaryngological considerations in the rehabilitation of the cleft palate patient. Diagnosis and management of ear disease in cleft palate infants. *Trans. Amer. Acad. Ophthalmol. Otolaryng., 73,* 709–714, 1969.

Chronic secretory or suppurative otitis media appears to be an invariable complication of cleft palate in infancy and usually develops within the first month of life. Myringotomy accompanied by the insertion of plastic tubes appears to be the best method of treatment now available. This procedure should be carried out as soon as the diagnosis is established and should be repeated as often as is necessary, in order to avoid further complications

and to permit the maintenance of normal hearing. (authors' summary/Gregg)

Shelton, R., W. Arndt, A. Knox, Mary Elbert, Linda Chisum, and K. Youngstrom, The relationship between nasal sound pressure level and palatopharyngeal closure. *J. speech hearing Res., 12,* 193–198, 1969.

This study was concerned with the relationship between nasal sound pressure level (SPL) and palatopharyngeal closure. Taped recordings were made of selected speech samples spoken at a comfortable vocal effort. A probe tube attached to a condenser microphone was positioned just inside a patent nares. The simultaneous recording of selected speech samples and nasal SPL enabled comparisons to be made between nasal SPL and test sentences, connected speech, and articulatory errors categorized into fricatives, sibilants, plosives, voiced phonemes, and voiceless phonemes. A greater nasal SPL was found for the group with poorer closure, indicating that the nasal SPL measure is sensitive to moderate differences in adequacy of palatopharyngeal closure. The 13 subjects who have moderate deficiency of palatopharyngeal closure were also filmed cinefluorographically at 24 frames per second during a sentence utterance. A mean palatopharyngeal gap was determined for each subject, and these means were averaged to give a mean gap for the group. These mean gaps were correlated with nasal SPL measures. Pearson correlation coefficients of 0.48 and 0.50 ($P < 0.10$) were obtained. The findings of this study indicate that nasal SPL can differentiate between two groups thought to differ moderately in palatopharyngeal closure, and the differentiation is relatively independent of other closure measures. The authors suggest that measurement of nasal SPL, with oral SPL controlled, provides a means to study change in closure within individual patients. (Mason)

Spinadel, L., B. Drechsler, M. Lastovka, and I. Lesny, Attempt at evaluation of functional conditions in the region of cleft lip (employing EMG and EEG examinations). *Acta Chir. plasticae, 10,* 260–266, 1968.

In 15 children, aged between 3 and 14 months, with cleft lip and palate, EMG and EEG examinations were carried out prior to primary surgery of the lip. Action potentials were taken of motor units of the orbicularis oris (and in some cases also of the mentalis) with the concentric unipolar needle electrode DISA. The prolabium was not tested. Descriptions are given of the EMG traces for each of the groups of subjects: slightly indicated cleft lip, incomplete cleft lip, unilateral cleft lip and jaw or unilateral total cleft, and bilateral total cleft. The peripheral motor neuron may be affected to any degree, from slight to severe. In no instance was it possible to record normal bioelectrical muscle activity. Also, latency of muscle response (velocity of motor nerve fiber conduction) was not normal. However, denervation of the muscles innervated by the facial nerve was not found in any case. Eleven of the subjects showed normal EEG records for their age. (Noll)

Stahl, A., and W. Fuhrmann, Oral-facial-digital syndrome. Clinical and genetic aspects. (In German) *Deutsch. Med. Wschr., 93,* 1224–1228, 1968.

This syndrome, also called "dysmorphy of the buccal ligaments", "dysplasia linguo-facialis", or "orodigitalfacial dysostosis", is less rare than it was previously thought to be, constituting one per cent of all cleft-lip-jaw-palate cases. A highly typical case is reported. The girl, aged 11 years, five months at examination, was the first child of normal, unrelated parents aged 25, with two normal sisters. Pregnancy was normal, with no history of drug ingestion. There was no pertinent immediate family history, though a maternal

uncle had one athyreotic child and another was stunted, microcephalic, and lacking a cerebellum. In infancy the patient was in a plaster cast for nine months to treat a dislocation of the right hip. At age one year several tongue fibromas were removed. At age four the cleft palate was closed surgically. At age seven the tongue was mobilized and the left-hand syndactyly was corrected. A second tongue operation at age 11 freed the ankylosed tongue. The child was intellectually underdeveloped for her age, but attended a special school whose requirements she could meet. She was receiving speech therapy, but her speech was thick and poorly articulated. Her karyotype was normal female, and her chromosomes without structural anomaly. There were some dermatoglyphic pecularities which gave only unspecific evidence of a disturbed embryonic development. This case is apparently sporadic, and as such the patient is to be considered a new mutant. All oral-facial-digital syndrome patients, almost without exception, are female. (A "male" was found to be a 47-chromosome XXY Klinefelter case.) This syndrome is very probably caused by a gene mutation on the x-chromosome, which is a fetal lethal for the male hemizygote, but attains phenotypic expression in the heterozygous female. It is also possible, but not likely, that its inheritance is as an autosomal dominant, lethal in the male. For genetic counseling, it is important to know that, while expression of the symptoms varies widely within and among families, there is no firm evidence that any woman who is herself quite free from symptoms on careful examination has ever transmitted the gene. To distinguish this syndrome from another which is inherited as an autosomal recessive, the name Mohr syndrome is preferable to the recently proposed "OFD II syndrome". (*Birth Defects: Abstracts of Selected Articles*, The National Foundation-March of Dimes, *6* (5), abstract number NF-MOD 69 406.)

Tessier, P., Surgical treatment of the genetically caused palpebral and orbito-facial malformations. (In German) *Klin. Mbl. Augenheilk.*, Genet. Suppl. to *50*, 82–121, 1968.

A survey. The most varied facial deformities, from the mild to the monstrous, are here discussed, described and illustrated before and after surgical treatment. The conditions treated are grouped in five categories: clefts; hypertelorism; craniofacial dysostosis; anophthalmos and microphthalmos; and blepharophimosis. The procedures for each are given, with the special problems involved and the likelihood of success. Included are the surgical objectives, the risks, and the precautions required for these often complex and multiple-staged operations of plastic and reconstructive surgery. (*Birth Defects: Abstracts of Selected Articles*, The National Foundation-March of Dimes, *6* (5), abstract number NF-MOD 69 408.)

Thompson, J. F., and M. R. Schweisthal, Study of closure of the embryonic rat palate in vitro with the effects of certain chemicals. *J. dent. Res.*, *48*, 568–571, 1969.

The addition of vitamin A or vitamin A with cortisone to organ cultures of rat palatal processes resulted in a high incidence of nonfusion. Cortisone alone did not greatly affect the process of closure. Cortisone in combination with vitamin A inhibits growth to the point of tissue breakdown. (Luban)

Weinberg, B., R. Christensen, W. Logan, J. Bosma, and Ann Wornall, Severe hypoplasia of the tongue. *J. speech hearing Dis.*, *34*, 157–167, 1969.

This report documents orofacial morphology, speech function, and nonvocal motor function in a seven-year-old girl with congenital hypoplasia of the tongue and self-acquired intelligible speech. Morphologic variations included a small oral aperture, narrow and prominent chin,

retruded lower lip, no lower labial frenulum, hypoplastic mandibular alveolus, large uvula which was slightly bifid and asymmetric, and a diminutive anterior tongue (1.5 × 2.5 cm) terminating dorsal to the mandibular first molars. Speech documentation included phonologic analysis, cineradiography with synchronous sound (24 frames per second) and cinephotography with synchronous sound (24 to 96 frames per second). Phonetic transcriptions of the patient's speech provided a perceptual analysis. Speech results indicated that consonants and vowels were produced with high phonetic identifiability, although sibilant sounds were distorted. Lingual consonants were produced without significant contributions from the hypoplastic tongue. No errors of voicing were noted. Pitch level and variability were normal. Speech was readily intelligible in single word utterances and in conversation. A detailed visual description of the patient during speech revealed abnormal perioral and facial motions, yet these atypical motions contributed to the generation of phonologically acceptable and intelligible speech. The findings suggest adaptive methods of speaking which may be developed and perhaps taught to individuals with severe lingual abnormalities. Nonvocal motor function revealed limited tongue mobility and a successful adaptive swallow pattern. The authors question whether speech intelligibility should be accepted as the important index reflecting the adequacy or efficiency of a communication system. (Mason)

Wilk, A. L., Production of fetal rat malformations by norchlorcyclizine and chlorcyclizine after intrauterine application. *Teratology, 2,* 55–65, 1969.

A technique is described by which the effect of teratogens was determined by placing small squares of Millipore filters impregnated with the hydrochlorides of the agents directly upon the rat amniotic sac (over the fetus) or the placenta. Filters containing 50 micrograms of norchlorcyclizine implanted on the amniotic sac on day 13 or 15 of gestation produced 30% cleft palate, while filters with 50 micrograms of chlorcyclizine produced only 3% cleft palate. Limb anomalies were seen with both agents. The effect of norchlorcyclizine differed according to where the agent was placed: insertion over the head area of 14-day-old fetuses resulted in 42% cleft palate, while insertion over the hindlimb produced only 11% cleft palate but hindlimb malformations occurred in 55%. Control filters with only hydrochloric acid inserted over the fetus and norchlorcyclizine filters placed on the placenta produced no malformations. (*Birth Defects: Abstracts of Selected Articles,* The National Foundation-March of Dimes, *6* (1) Apr. 1969, abstract number NF-MOD 69 330.)

Yules, R. B., Cinefluorography, speech, and dynamic respirometry in preoperative and postoperative pharyngeal flap patients. *Trans. Amer. Acad. Ophthal. Otolaryng., 73,* 724–727, 1969.

The author has employed cinefluorography, dynamic respiratory studies, and speech analysis to provide diagnostic criteria for assessing the results of palatal pushback and superior pharyngeal flap surgery with the hope that these observations will serve as an approach for others to allow better comparison of patients, techniques, and results. Thirty-one hypernasal patients (26 with cleft palate and 5 with noncleft velopharyngeal incompetence) were studied preoperatively and serially postoperatively for over one year. A trend was noted wherein speech became less hypernasal six months after surgery as the soft palate length increased, nasopharyngeal depth decreased, palate mobility increased, and nasal air leak decreased. The author feels that his observations suggest defining variables which can be compared between centers to allow selection of a given operation for a patient having a given set of preoperative measurements. (Gregg)

ANNOUNCEMENTS

At The University of Iowa Department of Otolaryngology and Maxillofacial Surgery, a postgraduate course in Maxillofacial Injuries will be given May 11-15, 1970. Limited to 14 otolaryngologists, preferably those engaged in academic practice, the course will deal with the immediate and delayed treatment of injuries to the soft tissues and underlying skeletal structures of the face and with associated dental problems. In addition to lectures and demonstrations, ample laboratory practice will be given in methods of open and closed reduction, interdental fixation, suture techniques, and the utilization of skin flaps. The fee is $250. Application should be made to Leslie Bernstein, M.D., D.D.S., Professor, Department of Otolaryngology and Maxillofacial Surgery, The University of Iowa, Iowa City, Iowa 52240.

The Transplantation Society is happy to announce that the Third International Congress will convene at The Hague, The Netherlands, from 7th to 11th September, 1970. The Transplantation Society was founded in New York in February 1966 as an international association for the study of transplantation. More than 650 specialists in the field of transplantation are members of this association. The President of the organization is Professor J. Hamburger of the Medical Faculty, University of Paris. Some 10 aspects of organ transplantation will be covered: 1) Mechanics and Modifications of Graft Rejection; 2) Genetics of Transplantation; 3) Transplantation Antigens; 4) Organ Transplantation; 5) Fundamental and Clinical Aspects; 6) Organ Preservation; 7) Transplantation of Haemopoietic Cells; 8) Phylogeny of Transplantation; 9) Heterotransplantation; 10) Impact of Transplantation on Biology. Plenary sessions will be held in the mornings while the afternoons can be used for parallel sessions. The majority of the papers will be short presentations, at times followed by discussions. There will be a number of symposia dealing with the main subjects as well as "micro-symposia" to cover certain highly specialized areas of research or clinical transplantation. Approximately 2000 participants from all over the world are expected to attend. The official languages of the past Congress of Transplanation Surgery have been English and French. However, in order to provide editorial uniformity an attempt will be made to use only English at the Third Congress. During the Congress there will be a scientific and a commercial exhibition. Those who are interested in participating may apply to the Secretariat for information. Recent scientific films in the field of Transplantation will be presented. Those who would like to submit a film for consideration are requested to contact the Secretariat for relevant information. On Monday night, 7th September, there will be an informal gathering. A cabaret, a general excursion, and a farewell party have also been

scheduled. A special ladies' programme is being arranged for accompanying persons. All persons interested in this Congress are kindly requested to forward their names and addresses to the Secretariat. The Secretariat of the Third International Congress of the Transplantation Society, c/o Holland Organizing Centre, 16, Lange Voorhout, The Hague, The Netherlands.

Graduate Traineeships in Cleft Palate Therapy and Rehabilitation, supported by the United States Public Health Service, are available to qualified applicants. Clinical training is offered at the Lancaster Cleft Palate Clinic, Lancaster, Pennsylvania. Graduate work in a basic science in connection with the clinical training is encouraged. The annual stipend is $6,000.00 with annual increments and dependency allowances, and is tax-free. Address all inquiries to: Chairman, Committee on Traineeships and Fellowships, University of Pennsylvania, School of Dental Medicine, 4001 Spruce Street, Philadelphia, Pennsylvania 19104.

Recently, a Cleft Palate Bibliography Service was initiated as one of the services offered by ACPA. All ACPA members receive the bibliography, to be published quarterly, at no cost. Nonmembers can subscribe to the service by writing to Dr. Nicholas G. Georgiade, Department of Surgery, Duke University, Durham, North Carolina 27706. The fee is 50¢ per copy; a yearly subscription is $2.08.

A five day Symposium on Cleft Palate and other Cranio-facial Anomalies will be given at the Carillon Hotel in Miami Beach, Florida, March 9th–13th, 1970. The program is being sponsored by the Birth Defects Center, University of Miami School of Medicine; Center for Craniofacial Anomalies, University of Illinois at the Medical Center, Chicago, Illinois; and the National Foundation-March of Dimes Dade County Chapter. The program will cover the anatomy of clefts, epidemiology, genetics, syndromes and clefts, pre and post natal development, surgical reconstruction, psychosocial end points, congenital palatopharyngeal incompetence, as well as other cranio-facial anomalies. Orthodontic-prosthetic management of the cleft palate patient will be covered in detail. The fee is $100. For more information write to: Samuel Berkowitz, D.D.S., M.S., Assistant Clinical Professor of Pediatrics, 6601 S.W. 80th Street, South Miami, Florida 33143.

NOTICE: The page charge policy, instituted with the January 1969 *CPJ*, will not be assessed for the publication of Congress papers since the

publication of Congress papers has been underwritten by the NIDR grant. If, however, the Congress paper is lengthened for publication, there may be page charges for the added pages.

TIME AND PLACE, ACPA

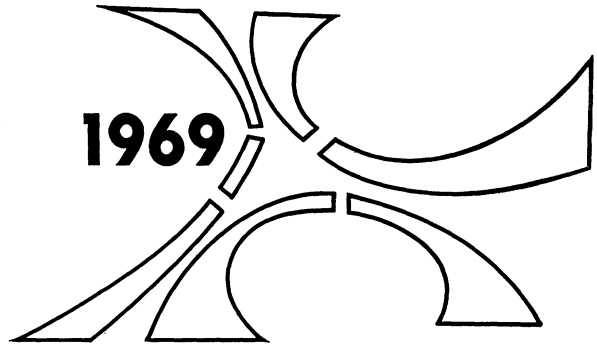
1970—April 16, 17, 18 ..... Portland at the Hilton
1971—April 22, 23, 24 ..... Pittsburgh at Chatham Center
1972—May 18, 19, 20 ..... Salt Lake City at the Utah
1973—date unspecified ..... Oklahoma City
1974—date unspecified ..... Boston

NECROLOGY

BERTRAM S. KRAUS, PH.D.
University of Pittsburgh

February 5, 1970

About the 1969 International Congress on Cleft Palate



The final report on the Congress cannot be prepared until the Editor has completed processing the Congress papers for *CPJ*. However, I felt that you might appreciate having one final note, largely of a statistical nature.

First, let me assure you that the financial planning for the Congress was sound. So much so, in fact, that we will be transferring approximately $11,500 of the special assessment and special contributions back to the Association.

	Registration		
Affiliation	*ACPA members*	*Non-members*	*Total*
Dentistry	101	84	185
Medicine	88	96	184
Speech Pathology	91	76	167
Other Disciplines	6	19	25
Unclassified		33	33
Students			217
Spouses			80
Total			891

Participants came from 43 states and the District of Columbia and from 32 foreign countries.

We still have a limited supply of Congress programs, mostly in English but some in French, German, and Spanish. If any of you wish to have extra copies, please send your requests to me without delay.

Although, as a result of hindsight, some of the timing and Congress procedures could have been improved, the universal response to the Congress was one of approbation. As I have said repeatedly, its success was made possible only as a result of the financial support of all of you and the dedicated efforts of many of you.

D. C. Spriestersbach, Ph.D.
Secretary-General
Old Capitol
Iowa City, Iowa 52240

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Changes of address and subscriptions to the Cleft Palate Journal *should be addressed to the Treasurer: Dr. Morton S. Rosen, 311 East Chicago Avenue, Chicago, Illinois 60611.*

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