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We hope that making available the relevant information on Pachyonychia Congenita will be a means of furthering research to find effective therapies and a cure for PC.
PROCEEDINGS OF
THE AMERICAN ACADEMY OF ORAL PATHOLOGY

UNUSUAL STOMADROMES—PACHYONYCHIA CONGENITA, LIPOID PROTEINOSIS, REITER’S SYNDROME, EPIDERMOLYSIS BULLOSA, BONNEVIE-ULLRICH-TURNER’S SYNDROME, AND MULTIPLE HEREDITARY TELANGIECTASIA

Robert J. Gorlin, D.D.S., M.S., and Anand P. Chaudhry, B.D.S., M.S., Ph.D., Minneapolis, Minn.

We have used the word stomadromes* to imply a syndrome, or symptom complex, that contains one or more oral components. The term is used in the same sense that "dermadrome" has been used by Wiener.†

A few of the more unusual stomadromes will be discussed and illustrated: (1) Pachyonychia congenita, (2) Lipoid proteinosis (Urbach-Wiethe's syndrome), (3) Reiter's syndrome, (4) Epidermolysis bullosa (Goldscheider's and Weber-Cockayne's syndromes), (5) Bonnevie-Ullrich-Turner's syndrome, and (6) Multiple hereditary telangiectasia (Osler-Rendu-Parkes Weber's syndrome).

PACHYONYCHIA CONGENITA‡

Pachyonychia congenita is an unusual congenital and sometimes familial malady characterized by dystrophic changes in the fingernails and toenails; hyperkeratoses or callosities of the palms and soles; follicular keratoses of the acriform type, particularly about the knees and elbows; and hyperhidrosis, or excessive sweating, of the hands and feet. Occasionally, dystrophic changes are also observed in the hair or cornea. Verrucous lesions may appear on the elbows, but they are especially common on the lower extremities about the knees, popliteal fossae, lower legs, and ankles. Plantar bullae are not uncommon. (See Figs. 1 and 2.) According to the genetic studies of Jackson and Lawler,§ a single dominant gene is the responsible factor.

From the Division of Oral Pathology, School of Dentistry, University of Minnesota.

*This paper was made possible by Grant D-519 from the United States Public Health Service.

†Personal communication with Dr. L. Cahn indicates that he has been using the term for a number of years.

‡An extremely brief review, as this syndrome was described in detail by us in a recent publication.
The microscopic picture of the oral lesions is that of acanthosis, intracellular edema, parakeratosis, and absence of the stratum granulosum.

This is but one of several ectodermal dysplasias that manifest oral changes. There is a similar complex, known as the Cole-Rauschkolb-Toomey syndrome or dyskeratosis congenita with pigmentation, dystrophia unguium, and leukokeratosis oris (Table I). From its salient features, similarities to other diseases will be noted. A recent article links this condition with the hyperplenism of the Fanconi-Ehrlich syndrome.
LIPOID PROTEINOSIS (URBACH-WIETHE'S SYNDROME)

Lipoid proteinosis is an unusual disease of unknown etiology which has several oral features. Fewer than two dozen cases have been reported in the world literature. Lipoid proteinosis is characterized initially in early infancy by the inability to cry. Later the voice assumes a hoarse whisper. The tongue is firm, wooden in consistency, and usually bound down to the floor of the mouth by a dense yellow-gray infiltrate so that it cannot be protruded beyond the lips. The lingual frenum is commonly infiltrated. The lingual papillae are often atrophic, and the dorsum may show numerous yellowish streaks. The lower lip is usually infiltrated and may be somewhat enlarged and firm. Commonly, yellowish plaques are seen on the buccal mucosa, palate, uvula, fauces, and oral pharynx. In several cases there have been dental anomalies. Teeth, commonly the maxillary lateral incisors, have been either missing or hypoplastic. Occasionally dental aplasia is marked.

Dermal infiltration is usually seen over the extension surfaces of the elbows, knees, or fingers. Axillary plaques have been noted. Waxy excrescences are seen strung along the eyelids like beaded pearls. (See Figs. 3 and 4.)
Microscopically, there is a lipid infiltrate about the blood vessels of the corium. The lipid, apparently a phospholipid, lies loose and not within phagocytes. Laboratory findings may be normal or there may be an associated diabetes, elevation in alpha and beta globulins, and increased urinary excretion of tyrosine.

Fig. 5.—Reiter's syndrome. Marked fusiform swelling of digit is quite apparent. Arthritis may involve any joint.

Fig. 6.—Reiter's syndrome. The skin lesions, keratoderma blennorrhagica, occur commonly on the soles of the feet and on the glans penis. The microscopic picture is quite similar to that seen in gonorrhea and pustular psoriasis.
Reiter's syndrome

Reiter's syndrome\(^{17-19}\) is a symptom triad consisting of (1) arthritis, (2) conjunctivitis, and (3) urethritis. In addition, there are dermal and oral mucosal lesions, which concern us here.

The arthritis is usually multiple and transient, but ankylosis of the affected joint never occurs. The disease is self-limiting, usually resolving within six months, but recurrences are not uncommon.

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Fig. 7.—Reiter's syndrome. Oral mucosal lesions are nonspecific, resembling very superficial aphthous lesions. The histopathology is not characteristic. The tongue is commonly involved; the labial and gingival mucosae are less often affected.

The symptom complex suggests gonorrhea, but smears of the urethral discharge are always negative for *Neisseria*. The skin and mucosal lesions (keratoderma blennorrhagica) are also similar to those seen in gonorrhea. The infiltrate is banal and not diagnostic.

We have observed four cases, all with oral lesions. The tongue had dorsal ulceration in four cases, with labial and gingival involvement in two instances. (See Figs. 5, 6, and 7.)
EPIDERMOLYSIS BULLOSA (GOLDSCHEIDER’S AND WEBER-COCKAYNE’S SYNDROMES)

Epidermolysis bullosa was considered a rare disease prior to World War II, but screening of a large segment of the population indicated that it was more common than supposed.

The disease is primarily a hereditary one. About one-half of the cases are congenital, with a slight preponderance of male patients.

Fig. 8.—Epidermolysis bullosa. Note superficial ulceration of knees and umbilicus (A). A small unbroken blister may be observed adjacent to an ulcerated surface (B).

There are two general clinical types of the disease, the simple and the dystrophic. The simple type is divided on the basis of the extent of involvement—for example, feet only, hands and feet, or generalized. The dystrophic type is divided into dominant and recessive types, which differ in severity of manifestations.20-24

In the simple type (Weber-Cockayne’s syndrome) there are symmetrical lesions at sites of trauma and pressure. Most commonly involved are the hands,
wrist, elbows, knees, feet, etc. The vesicles eventually rupture and heal without scarring, leaving only temporarily pigmented areas. There are no sequelae of permanent changes in skin, mucous membrane, nails, hair, or teeth. (See Fig. 8.)

In the dystrophic type (Goldscheider's syndrome), the teeth may be markedly rudimentary, hypoplastic, or congenitally absent. Partial or complete alopecia may be present, and the nails may be deformed or absent. The similarity to 'hereditary ectodermal defect' should be noted. The vesicles are frequently hemorrhagic, and they rupture with ulcer formation. Healing occurs under thin atrophic scars. Oral bullae, erosions, and hyperkeratotic plaques are common, especially on the tongue and buccal mucosa. Vesicles have also been reported on the lips, gingivae, and palate. These are more common in the sucking infant. Recurrent involvement has led to the binding-down of the tongue to the oral floor, and repeated lesions of the buccal mucosa produce microstomia. This
was so marked in one patient under our observation that oral examination was virtually impossible. It has been estimated that oral lesions are involved in about 16 per cent of cases of the dystrophic type. The recessive form produces lesions that are more severe. In these cases, physical and mental retardation are not uncommonly observed. (See Figs. 9 and 10.)

Squamous-cell cancer may be a complicating factor. Apparently, the changes wrought by the disease process predispose the patient to carcinomatous change. Klausner,25 in 1913, reported the case of a 25-year-old woman in whom carcinoma developed at the site of oral lesions. We observed one patient, a 30-year-old man, whose left arm had been amputated when he was 20 years of age due to the development of squamous-cell cancer in an area of involved skin.

BONNEvie-ULLRICH-TURNER’S SYNDROME

Bonnevie-Ullrich-Turner’s syndrome26-37 has a large complex of components. Among them are lymphangiectatic tumefaction of the hands and feet, webbed neck (pterygium colli), hypoplasia of muscles and abnormal insertion, loose skin, syndactylyia, clubfoot, ovarian agenesis (Turner’s syndrome), retardation of growth and sexual function, increased joint mobility, cubitus valgus (alteration in the carrying angle of the arm), mental retardation, and cranial nerve abnormalities.

In addition, there is an abnormally high palatal vault as well as underdevelopment of the mandible (micrognathia). Many patients have the genitals of one sex, while the buccal smear shows them to be of the opposite sex.34-37

The disease frequently goes undetected until puberty, at which time the sexual infantilism is noted as an indication of gonadal deficiency. (See Figs. 11, 12, and 13.)

Laboratory findings indicate increased urinary gonadotropins, and roentgenograms show delayed skeletal maturation and epiphyseal closure.

Possibly the most constant factor is the webbing of the neck. It should be pointed out, however, that one may have webbing without the rest of the syndrome and that about 50 per cent of the cases with ovarian agenesis occur without webbing.

High palatal vault is also seen in Marfan’s syndrome.38-39 This unusual complex consists of arachnodactyly, displacement of the lens of the eye, congenital cardiac defects, etc.

OSLER-RENDÚ-PARKES WEBER’S SYNDROME

This peculiar familial disorder is known by several names, principally multiple hereditary telangiectasia and hereditary hemorrhagic angiomatosis. The literature records over 250 families affected by this disorder.40-44 Of particular interest to the reader should be a report of the reunion of such a family.43

The disease appears to be of the simple mendelian autosomal dominant type. There is no sex preference, and it can be transmitted by either sex. Usually, the initial manifestation of the disease is epistaxis, melena, hematuria, or cerebral accident. Macular angiomas appear principally about the lips or anterior
According to the document, the involvement of the hands and feet, abnormal insertion, syndactyly, cubitus valgus, and mental retardation are observed. The configuration of the hands and feet, abnormal formation of the insertions, syndactyly, cubitus valgus, and mental retardation suggest a complex of congenital abnormalities. The hands and feet are abnormal, with syndactyly, cubitus valgus, and mental retardation. At the same time, the genitals may be of the opposite sex. This unusual configuration of the eye, congenital names, principally angiomatosis. The syndrome itself is characterized by peculiar features, particularly in the extremities. Usually, hematuria, or cerebrospinal fluid, may be observed in the anterior part of the body.
tongue at puberty, although they may appear earlier or develop during pregnancy. In addition to oral manifestations, there is frequently dermal, nasal, pharyngeal, or conjunctival involvement. Arteriovenous aneurysms of the lungs, liver, gastrointestinal tract, or bladder may complicate the clinical picture. The lesions manifest on the lips and tongue are not spiderlike. They are macular, rarely larger than 3 mm. in diameter. Clinically, they do not throb to the touch, but when they bleed the hemorrhage is profuse and pulsatile. (See Fig. 14.)

Fig. 14.—Multiple hereditary telangiectasia. Note punctate macular hemorrhagic areas on lips and tongue.

SUMMARY AND CONCLUSIONS

Certainly, a large number of systemic diseases have oral components. Only a few of them have been surveyed in this article. Pindborg, in a recent communication, listed seventy-four separate syndromes of dental interest—and even this list is not complete! This demonstrates the immensely wide field that exists for future investigation by those interested in oral disease. Hospitals for the chronically ill, institutions for mental and epileptic patients, and dermatology and endocrinology services of major hospitals are neglected areas of liaison for dental divisions to foster. Much mutual gain can be realized from a cooperative venture of this sort.

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