ACNE TETRAD IN A FAMILY

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SUMMARY
The authors report, for the first time in Bulgarian literature, a case of acne tetrad syndrome in a family. The patients were sisters who were found to have three of the four components of the syndrome: hidradenitis suppurativa, acne congloba, and cysta pilaris. There was no evidence or anamnestic data for perifolliculitis capitis abscedens et suffodiens. In one of the sisters the syndrome showed a more precipitate clinical picture and was combined with other skin disorders (lichen ruber planus, neurodermatitis circumscripta, hirsutismus). The patients had a familial predisposition to acne and pilar cysts.
The complete blood analysis, all biochemical parameters, the cytogenetic analysis and hormonal status (testosteron and estrogens) showed no deviation from normal values. The patients did not report any disturbances during their menstrual cycles. The cellular immunity in one of the sisters was depressed. The patients and their children will be closely monitored.

Key words: hidradenitis suppurativa, acne congloba, perifolliculitis abscedens et suffodiens

INTRODUCTION
The association between hidradenitis suppurativa, acne congloba, and perifolliculitis abscedens et suffodiens is known as the syndrome of the follicular occlusive triad (acne triad)1-4. Acne tetrad includes in addition kysta pilaris2-4. A combination of these disorders was first noted by Brunsting in 1939 (cited by Ref. 1). Later it was specified that a combination between two of them occurs much more commonly, whereas cases of complete syndrome of acne triad and acne tetrad are extremely rare. In Bulgarian literature, acne triad was first reported by I. Savova et al in 19921. The disorders included in this triad are in fact a chronic recurrent deep folliculitis. They all have similar pathogenesis, similar clinical and histologic pictures and seem most likely to constitute a generic group and be variants of one and the same process1,4,7.

Hidradenitis suppurativa (HS) is a suppurative inflammatory disease of the apocrine sweat glands. It was first described by Velpeau in 1835, but a full characterisation of the disease was made by Verneuil (1835) and now it is known by the name of Verneuil’s disease4,7,8. Among the predisposing factors for development of the disease are obesity, hereditary traits, irritation caused by deodorants, chronic mechanic traumas. The axillary and the inguinal forms are more frequent in women while the perianal or of the disease occurs more often in men4. Family cases of HS have been reported. In 1985, S. Fitzsimmons9...
reported 62 patients of 23 families. In 50% of the cases the syndrome was inherited in an autosomal dominant pattern. The same author also observed the disease in monozygotic twins. Primary HS lesions are painful erythematous infiltrates in the apocrine area without a festering tip. In the early stage of the disease these abscesses are very often single. The disease usually becomes chronic and presents with confluent recurrent suppurative abscesses, fistulas, and progressive cicatrization. Adenopathy is rare. The process does not spread hematogenically. Laboratory hematologic parameters are usually normal. Development of flat cell carcinoma in the chronically infected canals has been described. Bacteriologic analysis shows presence of staphylococci, streptococci, and, in chronic cases, invariably Proteus and Pseudomonas. Pathogenic anaerobic microorganisms do not have a great importance. The abscesses are sometimes sterile. The hormonal levels in HS are normal. Single cases with increase of the level of free testosterone have been described.

The pronounced inflammatory processes in the apocrine sweat glands are due to a primary keratin occlusion of the distal apocrine canal. The bacterial infection is secondary. It is impossible to detect with certainty the factor causing these early occlusive changes.

Acne conglobata (AC) is a disease of the follicle of sebaceous glands. Initially, it is the cornification in the infundibulum that is disordered; inflammatory changes in the acinus of the gland appear later and are localised on the chest, shoulders, and the back, more rarely on the gluteal areas (buttocks), the upper parts of the thighs and the face. Clinically, they present with comedones, fistulas, cysts, atrophic and hypertrophic cicatrices. Sometimes massive abscesses are formed with interconnected fistulas. The course of the disease is chronic and may persist for many years.

Perifoliculitis abscedens et suffodiens (PAS), or dissecting cellulitis of the scalp, has a similar clinical course as that of AC because of which it is usually described as acne conglobata of the scalp. It occurs more frequently in men. Clinically, it presents with small fluctuating nodules, abscesses, and fistulas. The disease progresses steadily, the final outcome being often keloids and permanent alopecia. Laboratory analyses show hyperkeratinous growths in the follicular orifices in the primary form of the disease.

Kysta pillaris, together with pilar sinuses and fistulas, forms the so-called pilonidal disease. There are more than 20 names of this disease recently recognised as pilonidal cysts. Pilonidal cyst is a dermoepidermal growth, located along the median line of the sacro-coccygeal area. It contains particles of the epithelial decomposition, hair follicles and thin hairs. In 5% of the cases sebaceous and sweat glands are found. The majority of the authors consider the disease as congenitally inherited. There are three theories of the congenital nature of the disease - ectodermal invagination, neuro-genic and embryonal theories. The English authors advocate the hypothesis for the acquired nature of the disease (mechanical theory).

The patients observed by us represent cases of incomplete syndrome of acne tetrad.

**CASE REPORT.** M.P.P., 34 years old, from the village of Dulgo pole, Plovdiv region (Reg. No 918/03.12.1992, Clinic of Skin Diseases, Plovdiv) had a severe acne conglobata in the region of the face, back, and breasts since 14 years of age (Fig. 1). She had undergone repeated treatment with no effect in which antibiotics from the tetracycline group and topical drugs were used.

The patient was diagnosed as having pilar cyst (Fig. 2) at the age of 19 years, the diagnosis being confirmed after consul-
tation with a surgeon. At the age of 24 the patient developed the clinical picture of hidradenitis in the region of both axillae (Fig. 3) and in the pubic region. The patient had familial predisposition to acne (mother and sister), to hidradenitis suppurativa (sister); her grandfather, father and sister were operated on for pilar cysts. The patient had two children, and a normal menstrual cycle. She reported aggravation of the disease before menstruation.

Accompanying disorders: neurodermitis cícrumscripta, hirsutísmus, lichen ruber planus.

Dermatologic status: disseminated nodules, papules, and comedones were found on the breasts and back of the patient and painful nodules, fistulas and cicatrices - in the axillae and the pubic region. In the sacro-coccygeal region there was an infiltrate (2 by 4 cm) with two fistular openings, located along the middle line.

Laboratory tests - hemoglobin, leukocytes, erythrocytes, thrombocytes counts and DKK were normal. Staphilococcus aureus was isolated two times from inoculation of a secretion of a fistula. The intradermal samples showed depressed cellular immunity. The results of the cytogenetic analysis were normal. The patient’s hormonal status (testosterone and estrogens) was normal. Biopsia from the pubis revealed a chronic inflammatory process.

The sister of this patient, P.P.P., 26 years old, from Plovdiv, also presented with an incomplete syndrome of acne triad - combination of AC, HS, and pilar cyst; but in a milder form. From the age of 18 the patient had acne conglobata (Fig. 4), from the age of 24 - hidradenitis in the region of the pubis and inguinal folds.
(Fig. 5); at the age of 25 she was operated on for pilar cyst in the First Clinic of Surgery in the University of Medicine, Plovdiv.

Similar investigations as those for her sister did not show any pathological changes. The patient did not complain of menstrual disturbances. She has one child born after an uneventful pregnancy.

**DISCUSSION**

The patients reported herein are cases of an incomplete syndrome of acne tetrade. Three of the four components of the syndrome, AC, HS, and kysta pillaris, were diagnosed in them. Two facts aroused our interest in the case - firstly, because the syndrome is extremely rare and secondly, because in our cases it was found within one family. The combination of disorders in both patients is identical. The patients were familialy predisposed to acne and pilar cyst. In one of the sisters the acne tetrade was combined with other skin diseases such as lichen ruber planus, hirsutismus, neurodermitis circumscripta and decreased cellular immunity. Cases have been reported of HS occurring simultaneously with pityriasis rubra pilaris or with acantosis nigricans as well as of acne triad accompanied with decreased cellular immunity. While in the above mentioned diseases there is a disturbance in the keratinization similar to the diseases included in the syndrome of acne tetrade and such a combination seems quite logical, in our cases the combination with the accompanying skin diseases is accidental. The diseases included in the syndrome of acne tetrade are identical pathogenetically - keratin occlusion of the distal apocrin canal in HS; disturbance of cornification in the infundibulum of the sebaceous gland in AC, hyperkeratosis in the follicular orifices in PAS. They also have a similar histologic and clinical picture - abscesses, cysts, fistules, and cicatrices. The disease has a chronic course. The occlusion of the follicular structures in these diseases plays a definitive role. Kysta pillaris, included in the acne tetrade syndrome contains hair follicules,
sweat and sebaceous glands.

This is the first reported case in Bulgarian medical literature of a family case of acne tetrad, albeit incomplete. These patients and their children will be further followed up.

REFERENCES
ФАМИЛЬНЫЙ СЛУЧАЙ ACNE-TETRADE
Л. Зисова, Б. Сакахушев
РЕЗЮМЕ
Впервые в болгарской медицинской литературе авторы описывают фамильный случай acne-tetraade. Пациентки-сестры и у них налицо три из четырех компонентов синдрома: hidradenitis suppurativa, acne conglobata, kysta pillaris. Отсутствуют клинические и аномиетические данные о perifoliculitis capitis abscedens et sufodienz. У одной из сестер клиническая картина синдрома проявляется более бурно и сочетается с другими кожными заболеваниями: lichen ruber planus, neurodermitis circumscripta, hirsutismus. Больные фамильно отягощены acne и kysta pillaris.
Проведены исследования. Полная картина крови, т.е. биохимические показатели, цитогенетический анализ и гормональный статус (тестостерон, эстрогены) в норме. Пациентки не сообщают о смущениях в менструальном цикле. У одной из сестер обнаружено нарушение клеточного иммунитета. За состоянием пациенток и их детей авторы будут следить.