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The Hypothalamic Stigma: Episode or Clinical Symptom?

Manana Gegechkori, Nana Sichinava, Tamar Gulbani

Zhordania Institute of Human Reproduction, Tbilisi, Georgia

ABSTRACT

The purpose of this study was investigation of hypothalamic stigmas importance and spread in both, women population and various types of hypothalamic syndrome (HS). A total of 103 patients with HS and 23 practically healthy women (the control group) aged 16 to 40 years have been investigated. Methods of investigation involved anamnesis, anthropometry, objective and clinical examinations, hormonal testing. Hypothalamic stigmas' spread has been assessed in 760 randomized and reproductively healthy women and in 114 preschool girls with the use of questionnaires and physical examinations. Has been carried out the retrospective analysis of results obtained after investigation of schoolgirls (1977 year). The results of our study have shown that hypothalamic stigmas of various colors are frequently seen in women population. In healthy women the stigmas represent "residual" effect of hypothalamic episodic activation. In case of HS development, stigma is the pathognomonic symptom and reflects the process of disease dynamics.

KEYWORDS: *hypothalamic syndrome, hypothalamic stigma*

The hypothalamic syndrome (HS) is one of the widely spread reproductive pathology in women. Pathogenesis of the HS has been related to opoid peptides' and monoamines' dysmodulative processes [1,6]. Realization of various bodily functions is closely related to the above-mentioned neurotransmitters. That's why, their dysfunction is immediately reflected on polymorphic symptomatology of the HS. Clinical manifestations include various disorders of menstruation, infertility, pathological hairiness and other dermatopathological markers, changeability of feeding habits and excess body mass, transitory hypertension, head ache, memory, sleep, sexual and other disorders.

The pathognomonic clinical sign of HS is the hypothalamic stigma - the dermatopathological marker of disorders of hypothalamo-hypophyseal system. Stigmas predominantly are localized on femora, buttocks, abdomen, pelvis, mammary glands and arms. Stigmas, characteristic for HS are distinguished, because they never reach large sizes and have various color intensity. Stigmas are white, pink, with blue-red tinged. Stigma's color partly reflects the clinical picture, active and latent periods of disease and according to capillary network expression gives various colors [4,8].

According to the literature, hypothalamic stigmas develop as a result of opoid peptides' activation, when they affect ACTH-RH [6,8].

Many of authors consider that stigma is the result of glucocorticoids catabolic action on both, skin proteins structures and blood vessels. Therefore, stigma is considered as a marker of hypercorticizm [2].

There are suggestions that stigmas appear on the background of obesity and their expression quality correlates with duration and quality of obesity [3,7].

The HS most frequently develops in pubertal and post-labor period, when diencephalic structures are maximally assaulted by various risk factors [5,8].

According to the literature, active stigmas by expression and frequency are most frequently developed in pubertal period. It is explained by lability of the central regulative structures, which encompasses dysfunction of adrenal system hypothalamic regulative mechanisms [1,2,6].

In 1951 Simpson first suggested information about "Stria distensae" when described the pubertal type of hypothalamic syndrome.

Information about stigmas in existing literature is versatile, disputable, vague and does not reflect the phenomenon. Stigmas exist in case of normal body weight, and exists obesity without stigmas as well. Stigmas are also detected in women with normal somatic and reproductive functions.

The purpose of this study was investigation of hypothalamic stigma's importance and spread in both, women population and various types of hypothalamic syndrome (HS).

MATERIAL AND METHODS

Investigations were carried out at the Zhordania Institute of human Reproduction, department of endocrinology.

A total of 760 women, aged 16-40 years were selected for investigations. Of the 760 patients 108 women were those who applied to the Zhordania Institute of human Reproduction for mini- or medicament abortion and with the purpose of contraception; 350 women were randomized; 300 were girls (aged 15 to 17 years) and 114 were preschool and grade school children.

The data, obtained after reproductive investigations of girls, aged 10 to 18 years and carried out in 1977 year were analyzed as well.

The randomly selected 103 patients aged 16 to 40, with HS diagnosis (2001-2002 y.y.) were studied. They underwent anamnetic, anthropometric, objective, and clinical investigations, also testing of enzymes in serum - FSH, LH, prolactine, free testosterone, immunoreactive insulin (IRI).

The same investigations were carried out in control group (23 healthy women, aged 16 to 40 years).

RESULTS AND DISCUSSIONS

A total of 760 women aged 15 to 40 years were investigated and evaluated in order to detect the stigmas' spread. The result of investigations revealed that of the108 women, who applied to the Zhordania Institute of human Reproduction for mini- or medicament abortion and with the purpose of contraception, 31 women had stigmas (28,7%). Among them 7 had the pink and 24 the white color stigmas. Respectively it was 6,5% and 22,2% from this category.

Of the 352 randomized and practically healthy women 90 were with stigmas (25,6%). The 9 women (2,6%) were with pink stigmas, and 81 were with white stigmas (23,6%). The thorough investigation of anamnesis revealed that about one third of this 81 women initially had the pink stigmas. 28 women formation of stigmas associated with body weight ranging. 19 women mentioned that stigmas developed in so called "awkward age". According to 18 women, stigmas developed in post-labor period and 25 women could not explain the reason of stigmas appearance. Of the 300 examined adolescents (15-16-17 year), 51 girls were with stigmas (17%). The white stigmas were detected in 40 individuals (13,23%), and pink stigmas - in 11 (3,6%). If we take into consideration that tinged stigmas formation in pubertal period coincides to early period and accompanies adrenarche, and age of examined individuals range from 15 to 17 years, there may be some deviations in percent values.

The stigmas were not detected in 114 preschool and grade school children (up to 8 years). Information about stigmas developed in childhood we could not find confirming the fact, that stigmas as problem develops after adrenarche (after 8 to 9 years), when starts the process of formation and permission of central mechanisms. Due to it the above-mentioned structures are labile and susceptible to stressors.

In 1977 year, retrospective analysis has shown, that of the 6700 adolescents 171 were with hypothalamic syndrome diagnosis (2,6%). Although it means existence of stigmas as pathognomonic marker in same patients, existence of stigmas was not separated in investigations.

The results of data obtained after epidemiologic investigations have shown that hypothalamic stigmas are widely spread in population (15-25%). It is stated that most of them, as problem, are related to pubertal period, pregnancy and labors. Because, the normal reproductive and menstrual function was allowed, the stigma was considered as "residual clinical sign" reflecting episode of dysmodulation of hypothalamus that was compensated at the presence of light stressors, thereby preventing disease development.

Along with episodic residual effects, the hypothalamic stigma is the pathognomonic clinical marker for active processes proceeding in diencephalic structures.

During the period from 2001 to 2002 years, among the 430 patients with reproductive pathologies proceeding by anovular processes, stigmas were detected in 132 cases (28,3%). The further investigation of the above-mentioned patients confirmed the active role of diencephalic dysmodulative processes in disease structure.

Concretely, a total of 103 patients with HS diagnosis were examined. The results of objective investigations have shown that the hypothalamic stigmas of white, pink and bluish-red color were detected in all patients. The stigmas coloration, that according to various authors' suggestions reflects the activation of processes occurring in diencephalic structures, was different. In 45,6% of cases (47 patients) the active bluish-red and pink stigmas were detected. The white, pale stigmas, characteristic for non-active processes were revealed in 54,4% of cases (56 patient), however the absolute majority of them marked that initially stigmas were stained.

Anamneses of examined patients were studied thoroughly. Especial attention was applied on duration of current disease. Of the 103 patients 28 (27,2%) had the short-term anamnesis of disease (about 1 year). In 50 (48,5%) patients disease duration ranged from 1 to 4 years and 25 (24,3%) patients had relatively prolonged anamnesis - 4 years and more. From this point of view noteworthy that in most cases patients with relatively short-term anamnesis had active stained stigmas. Of the 47 patients with active stigmas 29 (61,7%) had one-year anamnesis of disease, 14 (29,8%) - about 4 year and only 4 patients were with stained stigmas. Disease duration was more than 4 years.

In 63,3% of patients with normal body mass revealed stained stigmas. In patients with gynoid and even obesity active stigmas were detected in 55,3% of cases and very poorly stained stigmas were manifested in 27,9% of patients with visceral obesity.

The received data confirms the fact that stigmas loose coloration in disease dynamics and their white, non-active forms points on certain combination in diencephalic structures. The further dynamic development of disease involves elements of metabolism and related hyperandrogenia.

The patients who had the stained stigmas simultaneously revealed so-called diencephalic neurovegetative symptomatology - head ache, transitory hypertension, mood, feeding habit and sleep disorders. In patients with white stigmas the hyperandrogenic clinical symptoms such as hirsutism, acne-seborrhea, man-type hair loss on the head and visceral obesity were prevailed.

Thus, according to the results of investigations and literature it could be supposed that stigmas are widely spread in both cases, is it general population or reproductive pathology proceeding by anovulation, mainly the hypothalamic syndrome. Formation of stigmas, as problem, in most cases is related to pubertal period, pregnancy and labors, when lability of diencephalic structures is maximally revealed. In case of self-compensated episodic diencephalic dysmodulation, the peripheral manifestation by hypothalamic stigmas is considered as "residual" effect and is frequently seen in healthy population (15-25%).

Prolonged and aggressive influence of stressors on diencephalic structures results in formation of the hypothalamic syndrome with polymorphic symptomatology and stained stigmas, whose discoloration in disease dynamics points on certain compensations. The disease aggravation is expected due to metabolic disorders and manifested hyperandrogenia. Predominantly non-active, white stigma that points on initial diencephalic genesis of the existing disease corresponds to such type.

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Гипоталамическая стигма: эпизод, или клинический синдром?

Манана Гегечкори, Нана Сичинава, Тамар Гулбани

Институт репродукции человека им. Жордания, Тбилиси, Грузия

Р Е З Ю М Е

Изучена частота гипоталамических стигм среди женской популяции при различных формах гипоталамического синдрома (ГС). Обследовано 103 больных с ГС. Контрольную группу составили 13 практически здоровых женщин в возрасте от 16 до 90 лет. Проведены анамнестические, объективные, антрологические, клинические и гормональные исследования. Для анализа распространения гипоталамических стигм проведены опрос и физикальная оценка 760 рандомизированно отобранных репродуктивно здоровых женщин и 114 девочек дошкольного возраста. Произведен ретроспективный анализ результатов исследования школьниц (1977 г.). Результаты исследований показали, что гипоталамическая стигма различной окраски довольно частое явление в популяции. Среди здоровых женщин стигма является «остаточным» признаком эпизодической гипоталамической активации. При развитии же ГС стигма является патогномоничным синдромом и отражает процесс динамики заболевания.

КЛЮЧЕВЫЕ СЛОВА: *гипопластический синдром, гипоталамическая стигма*