

ДИСКУСІЙНІ, АКТУАЛЬНІ ТА ПРОБЛЕМНІ ПИТАННЯ

UDK 340.6 + 343

ACTUALITY OF THE PROBLEM OF IDENTIFICATION THE GENERAL PHENOTHYPIC INDICATORS OF HUMAN USING THE DERMATOGLIFIC PARAMETERS OF HAND AND FOOT

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Resume. The article presents the connection of forensic dermatoglyphics with other medical and non-medical sciences. The basic directions and provisions of forensic medical dermatology are defined: subject and research objects, as well as the range of issues that are being solved. The general assessment of the current state of the question of determination of blood affinity and identification of general phenotypic features of a person by the method of finger and palmar dermatoglyphics and also the dermatoglyphics of the foot, are given. The analysis of the latest scientific publications on the given problem was carried out.

Key words: identification of a person, fingerprinting, dermatoglyphics.

The presence of potentially dangerous industrial complexes, the development of vehicles, natural disasters, local armed conflicts are often the causes of mass deaths of people. Therefore, the identification of a person is a priority task of the investigating authorities before forensic medical experts. The work of forensic physicians in this direction, even with the use of modern methods of identifying a person, is often complicated by significant damage or dismemberment of the bodies of the dead, their burnout, as well as sharply expressed posthumous changes [1, 2]. Dermatoglyphics is one of the most informative and convenient for the study of «complexes of appearance» of a person, which promotes its wide use in forensic medical practice in the examination of controversial paternity and the identification of an unknown person. The increased interest in dermatoglyphics in recent years in forensic medicine has enabled integration of the achievements of biology (anthropology, genetics, medicine) and criminology, and the qualitative new level has yielded the possibility of solving traditional problems in diagnosing such phenotypic features of a person as race, age, gender, anthroposcopic and anthropometric [3, 4].

It is important to note that the most profound methodological developments on the diagnosis of blood affinity, ethno-territorial and racial affiliation concern the study of the main palmar lines, dermatological signs of the feet, distal phalanges of the hands and feet, the mean and main phalanges of the fingers.

As you know, in different nations of the world the frequency of skin patterns varies greatly. F. Galton is the first, who attempts to use finger patterns for the purpose of ethnic (racial) dermatoglyphics. He highlighted the main types of finger patterns and drew attention to the fact that the morphological type of pattern does not change with age, and only its size changes [5].

Capital long-term jobs Gladkova T.D. [6] and Cummins H., Midlo Ch. [7] contain very valuable studies of dermatoglyphics of primates and still serve as a guide and basis for further research by anthropologists, physicians and criminologists.

Currently, in anthropology, dermatological attributes are involved in solving ethnogenetic problems by many scholars.

Studies on the dermatoglyphics of the peoples of the Caucasus and Transcaucasia are contained in the works of Hit G. L. [5]. In particular, in her 1978 work on the racegeneticconnections of the Caucasian population, data are analyzed on 111 populations of the peoples of the Caucasus, Central Asia and the South of the European part of the USSR.

Sidorenko A.G. [8] on the basis of a comprehensive study of dermatoglyphics of the palms revealed racial and sexual differences, depending on the quantitative and qualitative indicators, taking into account the topography of triadios and voluntary pattern, as well as the presence or absence of basic and additional triadios; has established a significant correlation in the manifestation of rare dermatological features between the palms of children and true parents.

Suvorova N.A. [9] during comparing the ethnographic and anthropological data, it has been shown that the contribution of the local (genetic) substrate to the formation of the physical characteristics of the Bashkirs (appearance, morphology of the dental system, dermatological parameters) appears to be more significant than the historical and ethnographic data, based on the materials of the anthropological research. Moreover, if according to the kraniological study carriers of this component are mainly women, then according to dermatoglyphics, it is no less clearly traced to men.

The fundamental work in the field of ethnodermatoglyphics is the research by Segeda S. P. [10], who studied the differentiation of the population of Ukraine according to the data of dermatoglyphics and, based on the analysis of variations of the leading features of this system, identified local dermatological variants (complexes) on the territory of Ukraine (northern, central and southern).

The Northern complex, which covers the majority of the populations of Wooded district and Volyn, is characterized by a low and moderate delta index (11.83-12.56), higher frequencies of additional interdigital triadius (typically higher than 20%) and triadius t (up to 69%). This peculiar combination of features has analogies among the Belarusians of Central Byelorussia and the Russia of the Northwest and North of the European part of the Russian Federation, which testifies to the presence of the North European morphological component in the outlying regions of Ukraine. The central complex, distributed in some parts of the Middle Dnieper, in the south of Volyn and in Galicia, is characterized by the most «western» combination of dermatological features, namely: the average DI10 (12.72 - 13.12), the medium-high Kammins index (8.40 - 8.63), low and moderate percentages of triadius t (53.0 - 58.6%), high frequency of patterns on the hypotenar (34.6-38.7%) and average - interdigital additional triadius (16.1 - 19.1 %) The close combination of features is typical of the Moldavians of Northern Bukovina and the Russians of the South of the European part of the Russian Federation. The southern complex, which is distributed on the Right Bank of the Middle Dnieper, in the steppe zone and in the Carpathians, is characterized by a high-scale DI10 (12.90-13.50), an average Kammins index (8.27 - 8.58), a medium-high percentage of triadius t (62.2 - 65.3%), somewhat undercut the number of patterns on the hypotenar (26.3 - 30.4%) and interdigital additional triadius (10.1 - 23.6%). Parallels between the Dnieper and Carpathian people found on the basis of dermatological data are related to the influence of the southern European component. This is similar to the Bulgarians, Gagauzis, Moldavians and some groups of Russians in the South of the European part of Russia.

Consequently, in our opinion, the successful application of dermatoglyphics to identify an unknown person, along with other methods, allows us to speak about a system of methods that effectively complement each other. In addition, insufficient development, practical necessity, simplicity, non-invasiveness and material non-severity of the method determine the choice of finger, palmar dermatoglyphics and dermatoglyphics of the foot in the search for criteria for diagnosis and markers for the manifestation of the phenotype

Thus, dermatoglyphics is one of the most informative and convenient for the study of «complexes of appearance» of a person, which promotes its widespread use in forensic medical practice in the examination of controversial paternity and the identification of an unknown person. The presented data testify to the fact that the successful application of dermatoglyphics to identify an unknown person, along with other methods, allows us to speak about a system of methods that effectively complement each other. In addition, insufficient development, practical necessity, simplicity, non-invasiveness and material non-severity of the method determine the choice of finger, palmar dermatoglyphics and dermatoglyphics of the foot in the search for criteria for diagnosis and markers for the manifestation of the phenotype.

References:

1. **Bozhchenko A.P.** Forensic medical evaluation of dermatoglyphic signs of fingers in identifying a person: author's abstract. diss. to soup. scientific degree doc. sciences: special 14.00.24 «Forensic Medicine» / A.P. Bozhenko. - St. Petersburg, 2009 - 22 p.
2. **Opportunities and Prospects for Forensic Dermatoglyphics** / Bozhchenko A.P., Tolmachev I.A., Moiseenko S.A. and others - forensic medical examination. - 2009, # 4. - p.33-36.
3. **Zvyagin V.N.** Medico-forensic investigation of body fragments in the massive arrival of corpses / Zvyagin V.N., Galitskaya O.I., Negasheva M.A. - Forensic medical examination. - 2012, # 2. - p.4-7
4. **Zvyagin V.N.** Definition of the sexual belonging of a person on the basis of the comb account of the palms with the use of canonical discriminant analysis / Zvyagin V.N., Galitskaya O.I., Sidorenko A.G. - Problems of examination in medicine. - 2006. - №3. - p.34-37.
5. **Hit G.L., Dolinova N.A.** Race differentiation of humanity Dermatoglyphic data. M.: Nauka, 1990. - 206 pp.
6. **Gladkova T.D.** Every pattern of a brush and feet of monkeys and man / T.D.Gladkova. - M.: Science. - 1966. - 156 p.
7. **Cummins H., Midlo Ch.** Palmar and plantar dermatoglyphics in primates. -Philadelphia, 1942. 257 p.
8. **Sidorenko A.G.** Possibilities of palm dermatoglyphics in forensic identification of an individual: author's abstract. diss. to soup. scientific degree Candidate. Sciences: special 14.00.24 «Forensic Medicine» / A.G.Sydorenko. - Moscow, 2006 - 22 p.

9. **Suvorova N.A.** The problem of formation of the anthropological composition of Bashkirs according to data of dermatoglyphics and odontology: diss. to soup. scientific degree Candidate history Sciences: special 03.00.14 «Anthropology» / N.A.Suvorova. - Moscow, 2005. - 320 p.
10. **Segeda S.P.** Anthropological composition of the Ukrainian people: ethnogenetic aspect: author's abstract. dis for gaining sciences step doc. history Sciences: special 07.00.05 «Ethnology», 03.00.14 «Anthropology» / S.P. Segeda - Kyiv, 2002 - 28 p.

АКТУАЛЬНІСТЬ ПРОБЛЕМИ ІДЕНТИФІКАЦІЇ ЗАГАЛЬНИХ ФЕНОТИПІЧНИХ ОЗНАК ЛЮДИНИ ЗА ДЕРМАТОГЛІФІЧНИМИ ПАРАМЕТРАМИ КИСТІ ТА СТОПИ

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Резюме. В статті представлено зв'язок судово-медичної дерматогліфіки з іншими медичними та немедичними науками. Визначено основні напрямки та положення судово-медичної дерматогліфіки: предмет та об'єкти дослідження, а також коло питань, що вирішуються. Дано загальну оцінку сучасному стану питання визначення кровної спорідненості та ідентифікації загальних фенотипічних ознак особи методом пальцевої і долонної дерматогліфіки, а також дерматогліфіки стопи. Проведено аналіз останніх наукових публікацій з даної проблеми.

Ключові слова: ідентифікація особи, дактилоскопія, дерматогліфіка

АКТУАЛЬНОСТЬ ПРОБЛЕМЫ ИДЕНТИФИКАЦИИ ОБЩИХ ФЕНОТИПИЧЕСКИХ ПРИЗНАКОВ ЧЕЛОВЕКА ПО ДЕРМАТОГЛИФИЧЕСКИМ ПАРАМЕТРАМ КИСТИ И СТОПЫ

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Резюме. В статье представлена связь судебно-медицинской дерматоглифики с другими медицинскими и немедицинскими науками. Определены основные направления и положения судебно-медицинской дерматоглифики: предмет и объекты исследования, а также круг решаемых вопросов. Дана общая оценка современному состоянию вопроса определения кровного родства и идентификации общих фенотипических признаков лица методом пальцевой и ладонной дерматоглифики, а также дерматоглифики стопы. Проведен анализ последних научных публикаций по данной проблеме.

Ключевые слова: идентификация личности, дактилоскопия, дерматоглифика