

## ЛІТЕРАТУРА

1. Марушко Ю.В., Московенко О.Д., Бойко Н.С., Шеф Г.Г. Харчування дітей першого року життя // Современная педиатрия. – 2007. – № 2(15). – С. 155-158

2. Міжнародне зведення правил маркетингу заміників грудного молока: навчальний посібник для підготовки медичного персоналу закладів охорони здоров'я матері і дитини України, Дитячий фонд ООН (ЮНІСЕФ), 2008. [http://www.unicef.org/ukraine/7\\_Code\\_on\\_Breastfeeding\\_substitutes.pdf](http://www.unicef.org/ukraine/7_Code_on_Breastfeeding_substitutes.pdf)

3. Юр'єва Л., «Золотий стандарт» в дитячій дієтології, портал Буковинського державного медичного університету, <http://www.bsmu.edu.ua/uk/news/digest/1903-грудне-vygodovuvanja>

**Tkachenko E. V.**  
candidate of medical sciences, assistant

**Ghalwash Y.**  
student

**Almagri Ahmed**  
student

*Ukrainian Medical Stomatological Academy  
Poltava, Ukraine*

## SINISTRALITY STUDY IMPORTANCE

Asymmetry represents important adaptation factor for changeable or non-favorable environmental conditions. Nowadays there are more and more data about asymmetry phenomenon under physiological and pathological conditions. Sinistrality can be described as the asymmetry expression at the population-species level. It is evidently that the sinisters amount is getting bigger and bigger from year to year all over the world and they have peculiarities of physiological and pathological processes in their organisms. Also it is clear at a present time that the sinisters population is also unequal: one can say about real, hidden and unreal sinisters.

Sinistrality belongs to such a phenomenon rate and importance of which got increased during last years (sinisters amount together with ambidexters is approximately 20%). Interest to sinistrality as a phenomenon grows in many branches of theoretical and practical medicine. Left-handers change more easily their hand-use than right-handers [12, p. 1225] and it is known that such changes are not good for study, health, brain functioning (manual skills, speech in part) [11, p. 608-620]. When grasping the tool, younger infants are more influenced

by their hand preference than older infants, who are better at anticipating the most successful strategies [16, p.860-868]. Handedness is studied in twins [14, p. 10].

Only nowadays there is a real beginning for special devices usage for left-handers in dentistry in part in Turkey and in Belgorod (Russia) [4, p. 248-254], there is a tendency to have incisives more often fractures on the left in the left-handed adolescents. When left-hand dominant persons used left-handed scissors rather than right-handed scissors, the degree of wrist flexion decreased, which created more functionality, and the accuracy of the cutting increased [15, p. 933-934]. Left-hander's drilling action was skewed to the left and right-hander's drilling action was skewed to the right [18, p. 412]. For improved cutting accuracy and wrist stability and to protect the wrist from extensive flexion, it is necessary for left-handers to use scissors that are made for left-handed people. The work has been performed on the examined of both genders. Proprioceptive control of wrist extensor motor units dependence on handedness is studied [1, p. 11-29]. Left-handedness study is paid much attention in sports [9, p. 105800; 8, p. 270-286] as well as left-footedness [5, p. 292]. In subjects with atypically organized cognitive skills, tool-related processes are not just mirror reversed [10, p. 166].

It is clear now that sinisters have their own diseases and states, other diseases have peculiarities in them (tendency to recidivating, harder and atypical course as well as lethal end bigger percentage). According to English-language literature, «left» diseases comprise homosexuality, hypersexuality, virilism, neuroses, enforced anxiety [19, p. 629-642; 20, p. 58], mirror writing, stresses difficult endurance, enuresis, brain- epi-activity, suprarenal glands acute insufficiency (Waterhaus-Friderixen's syndrome), ovaries polycystosis (syndrome of Stein-Levental), dyschronoses (in part, at time and living zone change), sleeping and dreams disorders, oligophreny, boarder states, aphasies, apraxics, dyslexias [3, p. 1684-1692], syndrome of attention deficiency with hyperactivity in children, autism [17, p. 17]. The patients suffering from migren are mostly left-handed [7, p. 5079-5100] as well as from myopy [2, p. 526]. So-called «syndrome of sinister» becomes be present more and more in scientific literature and includes physiological conditions which often are considered to be pathological ones that creates much problems to such people. In fact, these states can be classified as boarder ones and can be explained by human physiological and psychophysiological peculiarities. On one hand, sinisters are classified to real, hidden and unreal. On other hand, there is a categorization of people to strong right- and left-handers, mixed right-/left-handers and ambidexters.

As it has been mentioned above, sinisters and dexters possess some distinguishing features in pathological and boarder conditions course. As a whole, common feature of pathological processes in all sinisters is in following: disorders both of sensory and abstract cognition, psycho-sensory and psycho-motor

processes are represented independently on injury side. These processes are disturbed separately in dexters. This clinical fact testifies that sinisters do not have brain hemispheres distinct specialization.

Besides own «left diseases» there are so-called applied aspects of sinisters study. We shall mention only some of them: children left-handers upbringing and teaching in part the geniuses, professional orientation and selection, research groups creating, parapsychical phenomena forecasting, in criminalistics (at the suspected and the accused discovery).

We performed observation of about 50 Egyptian and 50 Iraqi students (during 5 study years). We assessed individual profile of their interhemispherical asymmetry while widely and commonly used psychophysiological methods application (dominant extremity, finger, eye, Napoleon's probe, probe with applauding) and anamnesis making (sinistrality and dexterity among close relatives).

Interestingly, that differences between left- and right-handers among Egyptian students are higher comparatively to Iraqi ones. It means that hemispheres of the Egyptians work more separately. We assessed that both Egyptian and Iraqi real left-handers and ambidexes can deal with much more significant information volume than hidden left-handers and real right-handers. Also it is so much easier for Egyptian and Iraqi left-handers to deal with oral or written question answering as well as free situational tasks than to do tests solving (even with non-limited time period) comparatively to right-handers.

We hope, that our work can be used for more expressed individual approach to teaching students particularly taking into account individual profile of their interhemispherical asymmetry and will turn additional attention to sinistrals study under physiological and pathological conditions taking into account the mentioned literary data and the ones received at HSEEU «UMSA» Physiology chair. Investigating the left-handedness neural architecture is performed [13, p.148]. We can't help saying about cultural influencings on handedness development [6, p.67-78].

#### LITERATURE LIST

1. Aimonetti J.M., Morin D., Schmied A., Vedel J.P., Paqni S. Proprioceptive control of wrist extensor motor units in humans: dependence on handedness // *Somatosens Mot Res.* – 1999. – Vol. 16, N.1. – P. 11-29.
2. Ashton G.C. Myopia and cognitive ability // *Behav. Genet.* – 1983. – Vol.13. – P. 526.
3. Bloom J.S., Garcia-Barrera M.A., Miller C.J., Miller S.R., Hynd G.W. Planum temporale morphology in children with developmental dyslexia // *Neuropsychologia.* – 2013. – Vol.51, N.9. – P. 1684-1692.
4. Canakci V., Akgül H.M., Akgül N., Canakci C.F. Prevalence and handedness correlates to traumatic injuries to the permanent incisors in 13-17-year-old

adolescents in Erzurum, Turkey // *Dental Traumatology*. – 2003. – V.19. – Is.5. – P. 248-254.

5. de la Vega L., Graebe J., Härtner L., Dudschig C., Kaup B. Starting off on the right foot: strong right-footers respond faster with the right foot to positive words and with the left foot to negative words // *Front Psychol*. – 2015. – Vol.6. – P. 292.

6. Fagard J., Dahmen R. Cultural influences on the development of lateral preferences: a comparison between French and Tunisian children // *Laterality*.- 2004 Vol.9. N.1. – P. 67-78.

7. Geschwind N., Behan P. Left-handedness: Association with immune disease, migraine and developmental learning disorder // *Proc Natl. Acad. Sci. USA*. – 1982. – Vol.79. – P. 5079-5100.

8. Löffing F., Hagemann N. Pushing through evolution? Incidence and fight records of left-oriented fighters in professional boxing history // *Laterality*. – 2015. – Vol.20, N.3. – P. 270-286.

9. Löffing F., Sölter F., Hagemann N. Left preference for sport tasks does not necessarily indicate left-handedness: sport-specific lateral preferences, relationship with handedness and implications for laterality research in behavioural sciences // *PLoS One*.-2014. – Vol.9, Iss.8. – P. 105800.

10. Michalowski B., Kroliczak G. Sinistrals are rarely 'right': evidence from tool affordance processing in visual half-field paradigms // *Front Hum Neurosci*. – 2015. – Vol.27, N.9. – P. 166.

11. Michel G.F., Babik I., Nelson E.L., Campbell J.M., Marcinowski E.C. How the development of handedness could contribute to the development of language // *Developmental Psychobiology*. – 2013. – Vol.55, N.6. – P. 608-620.

12. Morange-Majoux F., Devouche E. Social encouragement can influence manual preference in 6 month-old infants // *Front Psychol*. – 2014. – Vol.5. – P. 1225.

13. Ocklenburg S., Garland A., Ströckens F., Über Reinert A. Investigating the neural architecture of handedness // *Front Psychol*. – 2015. – Vol. 6. – P. 148.

14. Ooki S. An overview of human handedness in twins // *Front Psychol*. – 2014. – Vol.5. – P. 10.

15. Park J.Y., Park S. 3D motion analysis comparison of left handers' wrist flexion and cutting accuracy according to scissors type // *J Phys Ther Sci*. – 2015. – Vol.27, N.3. – P. 933-934.

16. Rat-Fischer L., O'Regan J.K., Fagard J. Handedness in infants' tool // *Developmental Psychobiology*. – 2013. – Vol.55, N.8. – P. 860-868.

17. Scharoun S.M., Bryden P.J. Is strength of handedness reliable over repeating testing? An examination of typical development and autism spectrum disorder // *Front Psychol*. – 2015. – Vol.6. – P. 17.

18. Sparrow T., Heller J., Farrell M. In vitro assessment of aiming bias in the frontal plane during orthopaedic drilling procedures // *Vet. Rec.* – 2015. – Vol.176, Iss.16. – P. 412.

19. Wright L., Hardie S.M. Are left-handers really more anxious // *Laterality*.- 2012. – Vol.17, N.5. – P. 629-642.

20. Wright L., Hardie S.M. Left-handers look before they leap: handedness influences reactivity to novel Tower of Hanoi tasks // *Front Psychol.*-2015. – N.6. – P. 58.

**Ghranyna E.**  
Ph.D, assistant

**Yackovlieva K.**

**Fetisova M.**  
students

*Kharkiv national medical university*  
*Kharkiv, Ukraine*

## THE MORPHO-FUNCTIONAL FEATURES OF AN AORTIC ARCH

An aortic arch, arcus aortae, has the obliquity: from right to left and in front to the back. [1,p. 426]. The initial part of an aortic arch is projected on the right on the level of the 2nd sternocostal joint. The place of transition of an arch to chest part of an aorta is projected at the left on the level of a body of the 4th chest vertebra. The highest point of an aortic arch corresponds to the center of the handle of a breast. [2,p. 266].

As a result of research it has revealed that people with a short and wide thorax have rather high position of the aortic arch focused mainly in the frontal plane more often. At persons with the long and narrow thorax the aortic arch is located rather low and its orientation comes nearer to the sagittal plane.

As it is known, the middle department of an aortic arch is free from a pleura and is covered only in front with a adipose tissue with the oddments of thymic gland and with the top forward mediastinal lymph nodes. Behind the aortic arch there are a trachea, an esophagus, a chest duct and the left recurrent laryngeal nerve.

From above aortic arches there passes the left brachiocephalic vein, and from below – a bifurcation of a pulmonary trunk and the left primary bronchus. Through a pleura the aortic arch adjoins a mediastinal surface of the top lobe of