

UDK 616.34-007.272-053.1-07-089-053.2

**DIAGNOSIS AND TREATMENT OF ABNORMALITY OF ROTATION AND FIXATION OF THE COLON IN THE CHILDREN**

<sup>1</sup>Sattarov J.B., <sup>2</sup>Kolesnikova N.G., <sup>1</sup>Tillaboev S.V., <sup>1</sup>Berdiev U.T.

<sup>1</sup> Tashkent Pediatrics Medical Institute, 100125 Uzbekistan Tashkent, Bogishamol 223

<sup>2</sup>Sankt-Petersburg State Pediatric medical university, 194100, Russia St. Petersburg, st. Lithuanian, 2.

**Resume**

*The article presents the survey data of 79 children with various forms of abnormalities of rotation and fixation of the colon among 417 patients with lengthening of the colon. The course patterns and anatomical variants of rotational disorders are analyzed in detail. Morphological components and operational findings characteristic of individual clinical and anatomical forms of abnormalities of rotation and fixation of the colon are presented. A differentiated approach is proposed depending on the anatomical form of the anomaly of rotation and fixation of the colon and the possibility of fixation of the colon in physiological position.*

**Key words:** *abnormalities of rotation and fixation of the colon, clinic, anatomical forms, diagnosis, treatment, children.*

**ДИАГНОСТИКА И ЛЕЧЕНИЕ АНОМАЛИИ РОТАЦИИ И ФИКСАЦИИ ТОЛСТОЙ КИШКИ У ДЕТЕЙ**

<sup>1</sup>Саттаров Ж.Б., <sup>2</sup>Колесникова Н. Г., <sup>1</sup>Тиллабоев С.В., <sup>1</sup>Бердиев У.Т.

<sup>1</sup>Ташкентский педиатрический медицинский институт

<sup>2</sup>Санкт-Петербургский государственный педиатрический медицинский университет

**Резюме**

*В статье представлены данные обследования 79 детей с различными формами аномалии ротации и фиксации толстой кишки среди 417 больных с удлинением толстой кишки. Подробно анализируются формы течения и анатомические варианты ротационных нарушений. Приведены морфологические компоненты и операционные находки, характерные для отдельных клинико-анатомических форм аномалии ротации и фиксации толстой кишки. Предлагается дифференцированный подход в зависимости от анатомической формы аномалии ротации и фиксации толстой кишки и возможности фиксации толстой кишки в физиологическом положении.*

**Ключевые слова:** *аномалии ротации и фиксации толстой кишки, клиника, анатомические формы, диагностика, лечение, дети.*

**БОЛАЛАРДА ЙЎҒОН ИЧАК АНОМАЛИЯ РОТАЦИЯСИ ВА ФИКСАЦИЯСИДА ТАШХИСЛАШ ВА ДАВОЛАШ**

<sup>1</sup>Саттаров Ж.Б., <sup>2</sup>Колесникова Н. Г., <sup>1</sup>Тиллабоев С.В., <sup>1</sup>Бердиев У.Т.

<sup>1</sup>Тошкент педиатрия тиббиёт институти

<sup>2</sup>Санкт-Петербург давлат педиатрия тиббиёт университети

**Резюме**

*Мақолада йўғон ичак узайиши билан оғриган 417 бемор кузатилган, шулардан 79 нафар болаларда турли хил шаклдаги йўғон ичак аномалия ротацияси ва фиксацияси маълумотлари кўрсатилган. Ротация бузилишининг анатомик вариантлари ва кечилишининг шакллари батафсил келтирилган. Йўғон ичак аномалия ротацияси ва фиксацияси турли клиник-анатомик шакллари учун характерли*

*белгилар ва операция жараёнида аниқландиган ўзгаришлар тўғрисида сўз юритилади. Йўгон ичак аномалия ротацияси ва фиксациясининг анатомик шаклига ва йўгон ичакнинг физиологик ҳолатда жойлашиши имкониятига қараб дифференциал ёндашув таклиф этилади.*

**Калит сўзлар:** болаларда, йўгон ичак аномалия ротацияси ва фиксацияси, клиника, анатомик шакллари, таххислаш, даволаш.

### Relevance

Among the abnormalities of the development of the colon, a special place is occupied by various deviations in its position and fixation compared to normal and age-related anatomy, which is a particular manifestation of the general pathological process, which is called the disorder of bowel rotation [9,12].

The frequency of their occurrence is 0.03-0.5% [8,12]. Some types of malformations of rotation and fixation of the colon in children may not manifest themselves clinically in their entire life and may be an accidental finding during x-ray or pathological examination in both children and adult patients [2, 6–9,13].

The main clinical symptoms of these diseases appear in childhood and gradually reach a maximum by 7-13 years of life, often signs of decompensation are also observed in adults [3-5,7-8,10]. Their treatment can be conservative or operational, but there are no clear indications, guided by which the specialist could choose one of these methods. The optimal terms for performing surgical intervention, rational methods of surgical correction in children, confirmed by long-term treatment results, have not yet been determined [1,2-3,6,11,13]. In the literature we know, the criteria for early diagnosis, the nature of conservative treatment and the required volume of surgical intervention are not clearly defined with various options for rotation anomalies and colon fixation in children.

**The goal** is to optimize the diagnosis and treatment tactics for abnormalities of rotation and fixation of the colon in children.

### Material and methods

For 2016-2018, 417 children with suspected intestinal obstruction, recurring abdominal pain, with vomiting syndrome and chronic colnstipation were admitted to the clinical facilities (departments

of planned and emergency surgery of pediatric clinical Surgical Hospital No. 2 of Tashkent). Of these, 338 (81.0%) - with lengthening of the colon; 79 (19.0%) - with abnormalities of rotation and fixation of the colon. The age of patients ranged from 3 months. under 18 years old. Among the patients, boys predominated - 252 (60.4%), girls accounted for 165 (39.6%).

Of the total number of patients (417), 58 (14.0%) children were admitted to the clinic on an emergency basis with a clinic of intestinal obstruction, strangulated with hernia, appendicitis and acute abdominal pain. The remaining 359 (86.0%) patients were hospitalized for examination in connection with the presence of chronic recurrent pain, vomiting, and chronic coprosthesis.

The diagnosis was made on the basis of the analysis of anamnestic data, clinical symptoms and the results of comprehensive studies. The condition of the gastrointestinal tract was evaluated by endoscopic (fibrogastroduodenoscopy, colonofibroscopy) and radiological (irrigoscopy, irrigography, multispiral computed tomography in virtual colonoscopy (VCS), gastrointestinal tract passage with barium) studies. Also, patients underwent ultrasound examination of internal organs, according to indications - excretory urography.

Distinguished compensated, subcompensated and decompensated course of the disease. The nature of morphological changes in the gastrointestinal tract was evaluated on the basis of endoscopic studies. Resected sections of the colon were histologically examined.

With some anomalies of rotation and fixation of the colon, almost all organs of this system are sequentially involved in the pathological process. However, often the doctor's focus for many years has been the prevailing clinical manifestation of a particular nosology and does not take into account the interrelated changes in other digestive organs.

This circumstance gives rise to errors in the tactics of treating patients.

### Results and discussion

The anomaly in the rotation and fixation of the colon is determined by factors such as its relation to the peritoneal integument, the length and shape of the mesentery, the presence of fixing ligaments and adhesions in the abdominal cavity. The most common and of clinical importance, disorders of fixation of the colon are right-sided and left-sided coloptosis, total coloptosis, pathological mobility of the right parts of the colon. Of greatest clinical importance is the pathological mobility of the right colon. This condition predisposes to volvulus of the cecum, ileocecal intussusception, and the development of pain.

Abnormal mobility of the right half of the colon due to the presence of a common mesentery. The moving right half of the colon in a number of people may not manifest itself throughout life. Therefore, in an anatomical understanding, this type of fixation disorder of the right half of the colon gives a clinical manifestation and becomes a source of serious complications, it should be considered as an independent disease.

The main symptom is abdominal pain, localized, as a rule, in the right iliac region. The pain is often constant, dull in nature, sometimes paroxysmal, often radiating to the sacrum, back and lower limb. Persistent chronic constipation is also a common symptom of this suffering, which is apparently associated with secondary changes in the motility of the right half of the colon. A typical example of the disease is flatulence, sometimes accompanied by splashing noise in the right iliac region.

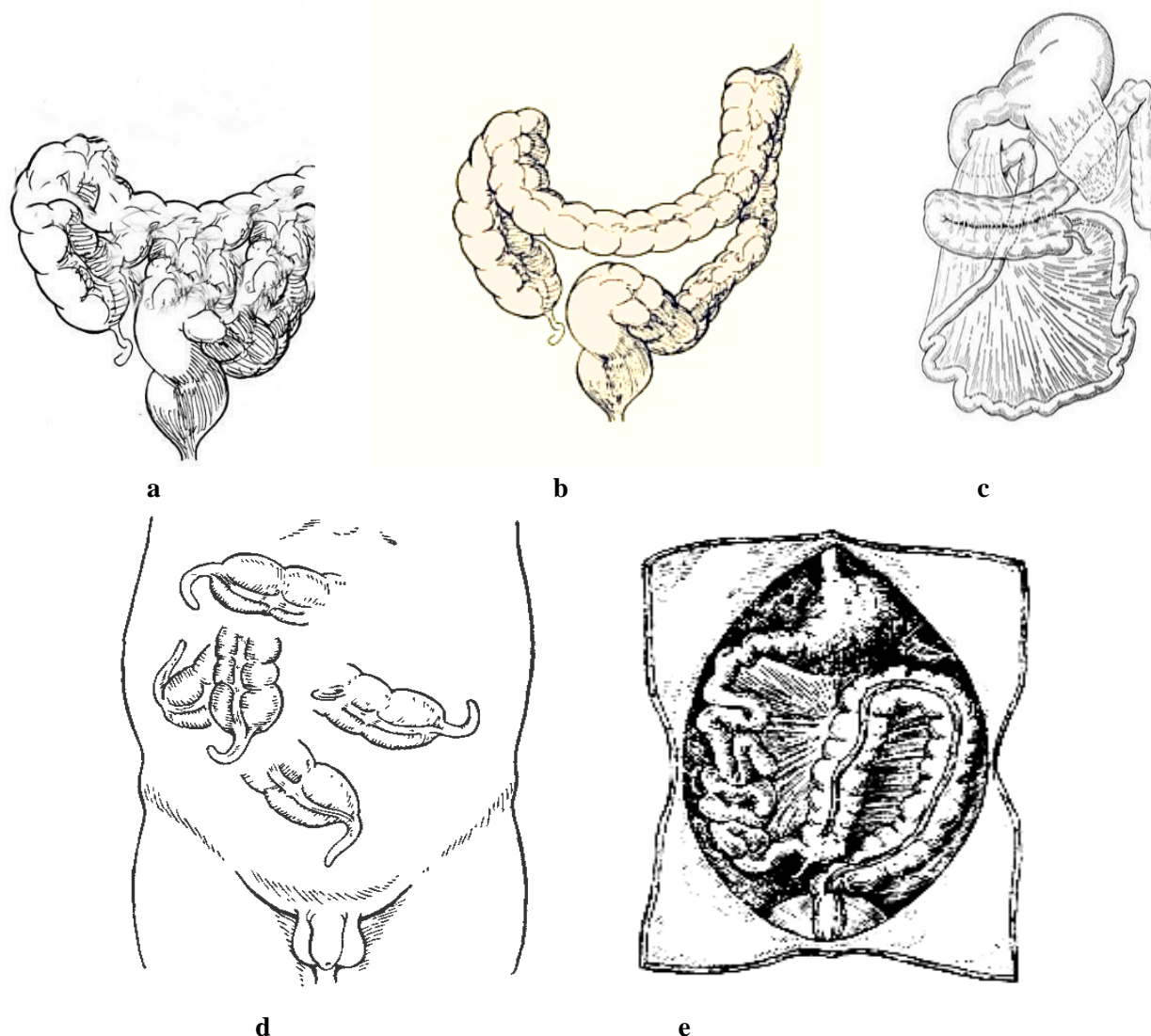
Based on the analysis of the results of treatment of 79 children with abnormalities of rotation and fixation of the colon of various forms, localization

and causes of obstruction, in accordance with the generally accepted classification, we determined the frequency of individual nosological forms, systematized their clinical manifestations, course features, summarized the results of auxiliary research methods, revealed the nature of the combined and concomitant diseases. This approach is of fundamental importance due to the fact that with certain differences in clinical and radiological manifestations and complications that are characteristic only for intestinal obstruction, the same clinical and radiological picture is observed regardless of the causative factor of obstruction of the amenable localization.

Without going into details of examining the factors of intestinal obstruction, etiology, and pathogenesis, we can, on the basis of our observations, argue that among them endless variations in intestinal anomalies in the form of impaired growth, rotation, and fixation play a huge role.

Due to the variety of forms of anomaly, rotation and fixation of the colon, causing obstruction, the clinical manifestations of the disease create great difficulties in diagnosis, often leading to belated recognition of the disease.

Anomaly of rotation and fixation of the colon is represented by numerous anatomical forms (Fig. 1): colonoptosis in 21 (26.6%) patients; Payra syndrome - in 16 (20.3%) patients, due to the commonality of clinical manifestations, we combined these nosologies in one group and the total number of patients turned out to be 37. Pathological fixation of the colon - in 19 (24.0%) patients. The mobile cecum (coecum mobile) - in 21 (26.6) patients. Sinistropositio Colon was detected in 2 (2.5%) patients. Among the patients, boys predominated - 31 (39.0%), girls accounted for 61.0% (48).



**Fig.1. Scheme of options anomaly of rotation and fixation of the colon: a) coloptosis; b) Payra syndrome; c) pathological fixation of the colon; d) mobile cecum; e) sinistropositio of the colon (according to I.Kh. Gevorkyan).**

As with other forms of anomalies of rotation and fixation of the colon, various combined anomalies of the gastrointestinal tract (GIT) and other organs and systems are observed. Of 79 patients, 72 (91.1%) had an isolated anomaly of rotation and fixation of the colon, and 7 (8.9%) had combined anomalies of the gastrointestinal tract and other organs and systems. Among them, an anomaly of the gastrointestinal tract (3) and the urinary system (4) of the patients prevailed.

Compensated stage was observed in 3 (8.1%), subcompensated stage in 15 (40.5%), decompensated in 19 (51.4%).

An analysis of the conducted contrast irrigograms allowed us to ascertain the presence of various forms of absence or impaired fixation of the colon or its individual segments: Payra syndrome - 16 patients, absence of colon fixation in the hepatic fold - 7 patients, total absence of colon fixation - 13 patients, absence fixation in the splenic fold - 1 patient, of which with lengthening of the parts of the colon - in 24 patients: transverse colon - 11, sigmoid colon - 23, subtotal (sigmoid and descending the intestine) - 1, total (by lengthening of all departments) - 2.

VCS performed by 56 patients (70.8%) at various times after surgery in order to evaluate the

results of treatment or to establish the nature of the complications that have arisen provided comprehensive information on the length and position of the remaining part of the colon after resection, the condition of the anastomosis zone and its mucous membrane. Analyzing the data of the VCS study after surgery, we paid attention to the formation of the rectal ampulla, the diameter and haustration of the left half of the colon. In all the examined children, the rectal ampulla was well defined.

According to the results of our research, all children experienced pain with nephroptosis. The pain occurred during physical exertion, walking, running. In all children, the pain syndrome was accompanied by dyspeptic disorders, vomiting, bloating, and stool disorder. Dysuric syndrome was noted by us in all children. Hematuria was observed in 1 child, leukocyturia - in 1 and bacteriuria - in 2 children. In 2 children with nephroptosis complicated by chronic pyelonephritis, isosthenuria was detected. We established arterial hypertension in children with nephroptosis in 1 case. Fatigue, weakness, and headaches were also noted. 2 children were admitted with a diagnosis of urinary tract infection. 1 patient was hospitalized with a diagnosis of acute appendicitis, and only on the basis of ultrasound and X-ray examination, in these children, nephroptosis was diagnosed.

All these patients with colonoptosis were treated conservatively. All children suffering from colonoptosis, in the stage of compensation and subcompensation, needed a comprehensive conservative therapy including dietary nutrition, rational use of laxatives, vitamin therapy, medical treatment, physiotherapy and physiotherapy.

We adhere to the following tactics of treating patients: when they are first admitted to the hospital, a course of conservative treatment is carried out, in the absence of effect we recommend surgical treatment. To the continuation of conservative therapy, we include patients who have revealed an anomaly of fixation, but had no complaints or were insignificant. Based on the complex of studies, the degree of compensation for the course of colonoptosis is established, with a compensated degree, repeated courses of

conservative therapy held every 3-4 months for 3 years; with subcompensated for 1.5-2 years, repeating the course of treatment after 3-4 months. Colonoptosis with a decompensated course is indicated for surgical treatment to establish a diagnosis. The lack of effect or short-term remission after conservative therapy with a subcompensated course of colonoptosis is also an indication for surgery.

Surgery was performed on 24 patients. The fixation of the mesentery and parts of the colon in the physiological position - colopexy without resection was performed in 3 patients, with resection and fixation in 21 patients. In 9 cases, an appendectomy was also performed. An indication for bowel resection is considered to be that an excessively sagging loop of the colon (more than 15–25 cm longer than the norm) that forms after one fixation and placement of the large intestine in the normal position creates one or two sharp bends or dolichosigmoid. With total colonoptosis (13 operations), colon fixation with resection of the sigmoid and part of the descending colon.

Surgical treatment for Payra disease included median laparotomy, separation of adhesions in the splenic and hepatic curvature, resection of the excess section of the transverse colon with an end-to-end anastomosis, was performed in 13 patients, in 3 patients in whom the transverse intestine was elongated and descended mildly, after laying the intestine, the transverse part acquired a normal anatomical position, did not sag, the middle part was fixed for the round ligament of the liver without resection. No additional fixing techniques were used.

We observed 2 patients with sinistropositio of the colon. In two cases, the patient was operated on in another hospital for appendicitis; a sinistropositio of the colon was detected. Only appendectomy was performed. After surgery, the patient continued to have pain. After admission to our patient, irrigography was done. During irrigography, the colon was in the left half of the abdomen. The patient underwent surgery, during which the movement of the colon to a normal anatomical position did not cause any circulatory disorders and peristalsis. In this case, the mesentery

of the colon and small intestine were separate. The operation is completed by colofixation.

A movable cecum with destructive appendicitis was found in 16 out of 21 patients. These patients showed different positions of the cecum in the abdominal cavity - in the left ileal region - in 2, in the epigastric region - in 3, in the navel - in 5, in the left hypochondrium at 6. In all patients with acute appendicitis, the clinical picture was erased, there were no clearly expressed appendicular symptoms.

Pathological fixation of the colon was observed in 19 (24.0%) patients. 7 children due to a temporary refusal of the parents from the operation carried out conservative measures aimed at stopping the pain syndrome and the phenomena of partial intestinal obstruction. Patients revealed unusual fixation of various combinations: thin to thin (1), thin to thick (2), multiple complex adhesions (3). Six cases of acute appendicitis with pathological fixation of the colon identified during appendectomy are also included here: soldering of the blind and part of the ascending colon in the right hypochondrium to the transverse colon (4); localization of the fixed cecum along the midline of the abdomen below the navel (2). During appendectomy and during the elimination of adhesions, the right colon colonies freely moved to the right flank of the abdomen. In 4 patients, pathological fixation of the colon of various localization occurred during the complete rotation of the intestine, that is, all sections of the colon had the usual location. Unusual fixation of the intestine was also detected in 3 patients with chronically recurring intestinal obstruction (membrane of the

small intestine - 1, membrane of the colon - 1, stenosis of the sigmoid colon - 1).

After discharge from the hospital, the patients were under observation at a surgeon and gastroenterologist; control examinations - quarterly. Conducted conservative maintenance therapy aimed at normalizing the function of the digestive tract and preventing adhesions in the abdominal cavity; prevention of inflammatory changes, motor-evacuation and enzymatic disorders in the digestive tract against the background of the recommended diet.

### Conclusions

Analysis of anamnestic data shows the complexity of the diagnosis and equally the lack of alertness in doctors of various specialties on malformations of rotation and fixation of the intestine.

An X-ray examination for colonoptosis is necessary and serves not only to identify the pathology as such, but also to determine the severity of the process, and therefore can indicate the choice of treatment tactics.

The detection of colonoptosis at an early age is not yet an indication for surgery, but the possibility of developing a sub- or decompensated form of the disease and complications necessitates determining the indication for conservative or surgical treatment.

In colonoptosis, surgical interventions - colon fixation or colon fixation with partial resection of the colon depend on the type of fixation disorder and the degree of local or total lengthening of the colon.

### REFERENCES:

1. Akilov X.A., Saidov F.X., Xodjimuxamedova N.A. Problemi diagnostiki i lecheniya xronicheskix zaporov u detey //Xirurgiya Uzbekistana, 2012; 3: 8-11. In russ.
2. Achkasov S. I. Anomalii razvitiya i polojeniya tolstoy kishki (klinika, diagnostika, lecheniye): /Avtoref. dis. ...d-ra med. nauk. – Moskva, 2003. – 30. In russ.
3. Komissarov I.A., Komarov K.M., Umenushkin A.A., Kolesnikova N.G. Osobennosti fiksatsii tolstoy kishki u detey s xronicheskimi bolyami v jivote //Vestnik xirurgii im. I.I. Grekova, 2003; 1: 52-56. In russ.
4. Lyonyushkin A.I., Xvorostov I. N. Anomalii rotatsii i fiksatsii kishchnika u detey (klinika, diagnostika, lechebnaya taktika) //Voprosi

5. Osipenko M.F., Frolova N.N. Povishennaya podvijnost' obodochnoy kishki //Rossiyskiy meditsinskiy jurnal, 2006; 6: 13-16. In russ.
6. Sattarov J.B., Ergashev N.SH., Xurramov F.M., Abidov N.SH. Virtual'naya kolonoskopiya v diagnostike anomalii razvitiya i zabolevaniy tolstoy kishki u detey //Xirurgiya Uzbekistana, 2013; 3: 28-34. In russ.
7. Smirnov A.N., Dorofeyeva Ye.I., Jarov A.R. Prinsipi diagnostiki i xirurgicheskoye lecheniye bolezni Payra u detey //Detskaya xirurgiya, 2007; 1:10-13. In russ.
8. Ergashev N.SH., Beknazarov Z.J., YUnusov M.I. Sinistropozitsiya tolstoy kishki u detey //Detskaya xirurgiya, 2009; 6: 20-22. In russ.

9. Ergashev N.SH., Beknazarov Z.J., Xurramov F.M. Xirurgicheskoye lecheniye kolonoptoza u detey //Detskaya xirurgiya, Moskva, 2010; 4; 32-35. In russ.

10. Ergashev N.SH., Sattarov J.B. Osobennosti kliniki i diagnostiki mal'rotatsii i anomalii fiksatsii kishhechnika u detey //Vestnik xirurgii im. I.I. Grekova, 2014; 4: 73-77. In russ.

11. Balthazar E. J. Congenital positional anomalies of the colon radiographic diagnosis and clinical implications. Abnormalities of rotation // Gastrointest. Radiol. 2016; 2(1): 41-47.

12. Berardi R.S. Anomalies of intestinal fixation and position in the adult// Surgery, Gynec. Obstet. 2008; 151(4): 561-570.

13. Luks F. I. Anomalies of intestinal rotation. Fundamentals of Pediatric Surgery (Ed.) // P. Mattei. – 2011; Vol. XXVIII: 373-380.

14. Touloukian R. J., Smith E. I. Disorders of Rotation and Fixation // In book: Pediatric Surgery. – St. Louis; Baltimore; Boston. – Mosby, 1998; 1199-1214.

Entered 09.02. 2020

UDC 616.857-616-053- (262.9)

CLINICAL AND VEGETATIVE PARAMETERS IN PATIENTS  
WITH MIGRAINE, DEPENDING ON GENOTYPE

M.T. Zhabbarov<sup>1</sup>, I.A. Kilichev<sup>1</sup>, V.V. Kovalchuk<sup>2</sup>, N.Yu. Khudayberganov<sup>1</sup>, M.M. Tadjiev<sup>1</sup>

<sup>1</sup>Urgench branch of TMA, Urgench city, Uzbekistan

<sup>2</sup>City hospital No. 38 named after N. A. Semashko, Pushkin, Saint Petersburg

**Resume**

109 sick with migraine are clinical neurologically examined, which were divided into 2 groups: the first group sick with migraine with aura (n - 22); the second group - sick with migraine without aura (n - 87). In addition, a PCR (polymerase chain reaction) study method was used to divide patients by genotype. The results of the study showed an increase in disease symptoms, depending on the pathological (VV) genotype from the normal (AA) genotype.

**Key words:** migraine, genotype, migraine with aura, migraine without aura, MTHFR (methylenetetrahydrofolate reductase)

КЛИНИКО-ВЕГЕТАТИВНЫЕ ПОКАЗАТЕЛИ У БОЛЬНЫХ  
С МИГРЕНЬЮ В ЗАВИСИМОСТИ ОТ ГЕНОТИПА

<sup>1</sup>Жаббаров М.Т., <sup>1</sup>Киличев И.А., <sup>2</sup>Ковальчук В.В., <sup>1</sup>Худайберганов Н.Ю., <sup>1</sup>Таджиев М.М.

<sup>1</sup>Ургенчский филиал ТМА.,

<sup>2</sup>Городской больницы №38 им Н.А. Семашко, Пушкин, Санкт-Петербург

**Резюме**

Обследовано 109 больных мигренью, в зависимости от генотипа которые были разделены на 2 группы: первая группа больные мигренью с аурой (n - 22); вторая группа - больные мигренью без ауры (n - 87). Для распределения больных по генотипу проводилось полимеразная цепная реакция. По данным исследование от нормального (AA) к патологическому (VV) генотипу клиника мигрени с аурой, то есть классическая мигрень, имеет тенденцию к утяжелению, с преобладанием вегетативной дисфункции.

**Ключевые слова:** мигрень, генотип, мигрень с аурой, мигрень без ауры, МТГФР (метилентетрагидрофолат редуктаза).