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**Textbook on the subject:**

**"Migraine (evolution of views on the diagnosis and solution of the problem)"**

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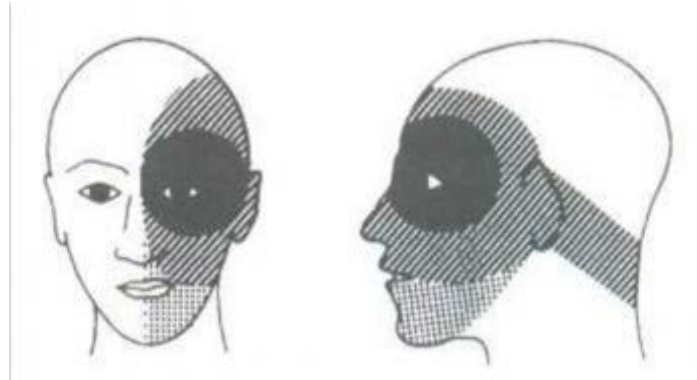
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Tutorial contains modern concepts of migraine. It focuses on the modern view of the pathogenesis , diagnosis and treatment of migraine.

For students, medical residents , masters, general practitioners and neurologists .

Headache is as old as the world , it at least once in a lifetime experiences every inhabitant of the planet . In the general population , there is a high incidence of primary headaches (PHB ) . Leading place takes migraine prevalence is highest in the most working age ( Tabeeva GR, 2013 , LiptonRB., StewartWS., DiamondS., Etal., 2001). Migraine is an episodic form of primary headache , which is manifested by intense , often unilateral paroxysmal headaches , as well as neurological, gastrointestinal , autonomic disturbances



With a duration of 4 to 72 hours, it is on the 7th place among the 10 diseases leading to maladjustment when headaches (SteinerTJ, StovnerLJ., BirbeckGL.Migraine: the seventh disabler.The Journal of Headache and Pain 2013,14:1. ) . migraine occurs most often between the ages of 17-25 years (70%) , the maximum number of cases in the 25-35 years (StovnerL., HagenK., JensenR., etal. 2007 ) . Women suffer 3-5 times more often than men , although in older age groups , the ratio evens out. One of the leading factors of the disease is a genetic predisposition . It is inherited in an autosomal dominant manner , and if it suffered from both parents , the risk of developing the disease is 60 % [5] .

The pathogenesis of migraine has not been studied . There are several conflicting theories to explain the development of this disease : vasomotor , neurogenic , metabolic , etc. Thus, according to the theory of serotonin , serotonin(5-hydroxytryptamine, 5-HT) is one of the key factors in maintaining vascular tone. It is formed from tryptophan , from food , and under the influence of the enzyme monoamine oxidase undergoes cleavage . According to theory, when a migraine attack for several reasons serotonin level rises sharply , whereby upon binding to 5-HT receptors of the vascular wall spasm of arteries. This phase corresponds to the aura attack. In response to an excessive amount of blood enters monoamine oxidase , thereby reducing the tone of arteries and veins, there is an overflow of blood, edema (MoscowitzMA.Neurogenic versus vascular mechanisms of

sumatriptan and ergot alkaloids in migraine. Trends Pharmacol Sci. 1992; 13:307-11 ) . Irritation vascular receptors located in the vascular wall , causing pain , which corresponds to the pain attack phase . Then serotonin levels gradually returned to normal, and the attack ends [ 3 , 5]. In addition , recently etiopathogenetic migraine mechanism considered pathological deformation of the brachiocephalic arteries . Reason pathological deformations GCA - genetic and associated with the wrong frame construction arteries consisting of structural proteins - collagen and elastin. With age, the tortuosity increase, which is often the cause of the complaints in the elderly, despite the inherent nature of the disease . Pathological tortuosity inherited ! [ 4,6,8,9,20 ] . Thus , the mechanism is easier to introduce flow disturbances during compression , torsion or bending of the garden hose, - acceleration of the flow of liquid laminar flow and its loss of properties results in a loss of kinetic energy and insufficient blood supply to the blood brain. Another mechanism is the narrowing of the artery at the site of inflection - septal stenosis, which , under certain conditions , is an analogue of lumen stenosis in atherosclerosis . Another possible reason may be hypoplasia , ie GCA underdevelopment due to what vessels are most sensitive to various factors . At the same time , kinking of the internal carotid artery ( ICA tortuosity ) - the most frequent pathologies among all strains of the GCA . Narrowing , underdevelopment of the arteries supplying the brain with blood , resulting in pathological deformation GCA lead to chronic cerebral circulation. This state is constant shortage of blood brain , continuous anoxia of brain tissue causes neurons to be a constant voltage of intracellular and intercellular communications systems , leading to disruption of normal brain cell function as well as the whole organ . [ 4,6,8,9,19 ] . Almost half of the cases symptoms are not detected , and tortuosity discovered incidentally during inspection and duplex scanning of carotid arteries. Most often the first manifestations are in the form of headaches in the frontal and temporal areas , bouts of dizziness, tinnitus , impairment of memory . Several rarer more severe neurological disorders - as a transient ischemic attack (TIA ) , sudden loss of consciousness. The main precursors of development of a large stroke are TIA, where it may be transient paralysis of the hands and / or feet (from several minutes to several hours ) , speech disorders , transient or abruptly emerged blindness in one eye , memory loss, dizziness , fainting . Availability TIA - it is an alarming warning that the brain in serious danger , and as soon as possible to get tested and start treatment .

According to the ICD -2 from 2004. , Distinguish the following types of migraine :

1. Migraine without aura (simple migraine) .

## 2 . Migraine with aura ( associated migraine )

1.2.1 . typical aura with migraine headache ;

1.2.2 . Typical aura with non-migraine headache ;

1.2.3 . typical aura without headache;

1.2.4 . familial hemiplegic migraine;

1.2.5 . sporadic hemiplegic migraine;

1.2.6 . Basilar-type migraine ;

1.3. Periodic syndromes of childhood, usually preceding a migraine.

1.3.1 . Cyclic vomiting ;

1.3.2 . Abdominal migraine;

1.3.3 . Benign paroxysmal vertigo of childhood ;

1.4. Retinal migraine;

1.5.Oslozhnennaya migraine :

1.5.1 . Chronic migraine;

1.5.2 . Migraine status ;

1.5.3 . Persistent aura without infarction ;

1.5.4 . Migrainous infarction ;

1.5.5 . Seizure caused by migraine ;

1.6. Probable migraine :

1.6.1 . Probable migraine without aura ;

1.6.2 . Probable migraine with aura ;

1.6.3 . Probable chronic migraine;

In general , clinical proyavleniyavseh types of migraine can be divided into 4 phases , most of which goes into one another throughout the migraine attack .

Prodromal period ( 1st phase of migraine )

50% of patients during the preceding 24-hour period can be observed some forms of the prodromal period . Forerunners headache develops gradually , clearly expressed, in connection with what can not always be described by the patient alone and revealed only when a targeted survey.

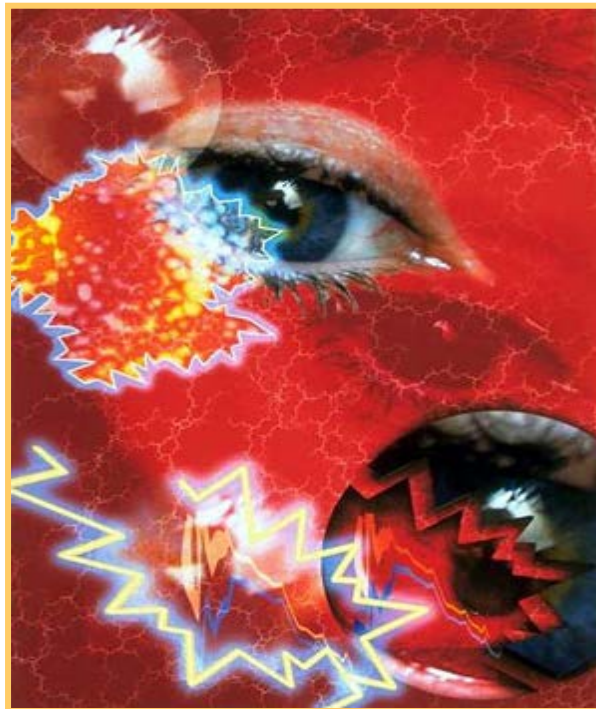
Most often harbingers of migraine are:

- general weakness or discomfort ;
- reduced or heightened perception ;
- depressed mood or irritability ;
- craving for a particular food (sweet or sour food) ;
- increased sensitivity to light and / or sound stimuli ;
- Excessive yawning ;
- increased activity or decreased performance ;
- speech difficulties ;
- tension in the neck muscles .

Migraine without aura (simple migraine) is the most widely - tion carried out ( 65-80 %) form of the disease and is characterized by the absence or weak expression of the second phase. Seizures occur more often at night or in the morning , sometimes transforming into a migraine status. Interval between attacks varies from one to two times a week to several times a year. The average age of the frequency of attacks decreases.

Aura ( 2nd phase of migraine )

Migraine attacks in 10-15% of cases precedes migraine ay -ra - a complex neurological symptoms occurring immediately before or at the beginning of a migraine headache. On this basis distinguish migraine without aura (IBA previously "simple" ) and migraine with aura (MA previously " associated " migraine) . Not to be confused with the aura of prodromal symptoms .



Buff develop for 5-20 minutes , there remains no more than 60 minutes and the beginning phase of the pain disappears completely . The most frequent visual , or "classic" , the aura , which is manifested by various visual phenomena: photopsias , flies, unilateral loss of sight, shimmering scotoma or zigzag luminous line (" fortification spectra "). May occur rarely sided weakness, or paresthesias in the extremities ( gemiparesteticheskaya aura ) , transient speech disturbances , distortion of the size and shape of objects ( the syndrome of " Alice in Wonderland "). Symptoms usually follow sequentially one after the other. Visual symptoms first appear , then touch and voice , but other sequence . Migraine with aura ( associated migraine) is characterized by a distinct aura in which neurological symptoms depends on the particular vascular bed . Buff occurs , usually on the opposite side from the pain and the pain may persist after phase. Typical aura lasts up to an hour long aura - from hours to several days. Variants of migraine with aura are familial hemiplegic migraine, when members of one family at the time of the attack observed weakness or sensory disturbances in opposite limbs, sometimes accompanied by a full or partial aphasia ; basilar migraine manifested bilateral visual impairment , tinnitus , vertigo , imbalance , there may be a disturbance of consciousness from confusion to stun ; migraine aura without headache ( migraine beheaded ) is characterized by a prodrome and aura (usually visual or vestibular ) without pain phase duration - up to 20 minutes.

Migraine cephalalgia ( third phase of migraine )

Migraine attack may occur under the influence of a whole convent da provocateurs among which the leading role belongs to the factors shown below :

- emotional stress ;
- changes in weather ;
- menstruation ;
- hunger ;
- physical activity ;
- alcohol ;
- lack or excess of sleep a night ;
- stuffiness / odors ;
- visual stimuli ;
- cold.

Often attack occurs not during the actual stress, and after resolution of a stressful situation . Provocative role can play rhythm disturbance of sleep and wakefulness , and more attacks can be triggered by lack of sleep , excessive sleep less (" weekend migraine "). Certain foods can also " run " a migraine attack : alcohol ( especially red wine and champagne ) , chocolate, citrus , some cheeses and foods containing yeast. Provocative action of some products is due to their content of tyramine and phenylethylamine .

To provocateurs migraine include vasodilators , noise, stuffiness , bright and flashing light . Migraine pain, often pulsating character, usually captures half of the head and is localized in the forehead and temple , around the eyes , and sometimes may start in the occipital region and spread anteriorly into the forehead . In most patients, side pain can vary from attack to attack. Strictly unilateral nature of atypical migraine pain and is an indication for further examination to exclude organic brain damage . Duration of an attack in adults usually ranges from 3-4 hours to 3 days and an average of 20 hours In episodic migraine attack frequency varies from one attack in 2-3 months up to 15 per month , the most typical frequency of migraine attacks - 1-2 or 3-4 month. Migraine attack , usually accompanied by nausea, increased sensitivity to bright light ( photophobia), sound ( phonophobia ) and odors , decreased appetite may occur more rarely vomiting, dizziness, fainting . Because of severe photo - and phonophobia most patients during an attack on prefer - hoditsya in a darkened room in a calm quiet atmosphere. Migraine pain worse by routine physical activity such as walking or



climbing stairs. For children and young adults typically appearance drowsiness and headache after sleep often goes completely .

Then comes postdromalny period ( 4th phase of migraine ) .

Subsides after intense migraine headache , many patients experience during the next 24 h period when they feel " overwhelmed ", " exhausted " or " just tired ." The more long-lasting migraine attack , the more time is prodromal period . In addition , migraine is often associated with hypotension and cholecystitis ( " three twin syndrome " ) . [1] In addition there is also a retinal migraine, which is manifested transient blindness in one or both eyes , occurring as a result of transient ischemia of the retina or optic nerve. Ophthalmoplegic migraine is characterized by oculomotor disturbances ( ptosis , diplopia , unilateral mydriasis ) on the side of pain . Complications of migraine are migraine status ( heavy series of consecutive attacks or prolonged attack, accompanied by repeated vomiting , weakness ) and migrainous stroke at which evolved at the time of attack focal neurological symptoms do not disappear after the attack. Other disorders include migraine vegetative migraine ( migraine attack at the moment there is vegetative crisis sympathoadrenal character) , abdominal migraine ( migraine attack is accompanied by throbbing pain in the abdomen and diarrhea ) , disfenicheskaya migraine ( at the time the attack was observed confusion, disorientation, memory impairment , hallucinations ) , catamenial migraine ( significantly more common in the age of 16 , often in the form of migraine without aura (a simple form of migraine ) , longer duration of migraine attacks , as well as a slight predominance of autonomic disorders , unlike CCM ) . Of interest , data on the effect of pregnancy on the course of the disease . Menopause and pregnancies relieves patients KM . Since , for the CM characteristic relative deficiency of estrogen function with excess precision progestin . These violations reach a considerable expression intensity in the II phase of the menstrual cycle and during pregnancy , we see the opposite picture , which leads to significant improvement in patients. [11]. At the same time, 15-20 % of patients with typical disease in the early years with episodic migraine attack frequency increases until the appearance of daily headaches , the nature of which is gradually changing pain become less strong , acquire a permanent character , may lose some typical symptoms of migraine. This kind of fulfilling criteria " migraine without aura " , but occurs more than 15 days per month for more than 3 months , was called chronic migraine , and along with some other disorders ( migraine status migraine attack, seizure caused by migraine , etc.) is category migraine complications . It should be noted that in pediatric practice can be marked so-called precursors of migraine - cyclic vomiting ( occasionally repetitive usually stereotyped for each patient bouts of severe nausea

and vomiting ) , abdominal migraine ( disorder manifested by attacks of the middle abdominal pain lasting 1-72 hours , between bouts condition of the patients is not broken ) and benign positional vertigo ( disorder manifested recurrent episodes of transient dizziness that suddenly appear , in general, healthy children , and just as suddenly pass ) . To the periodic symptoms of childhood , accompanying or preceding a migraine include benign dizzy spells or alternating hemiplegia . Thus, in recent years, due to the widespread introduction into clinical neurology highly informative ultrasonic methods, much attention has been paid to the problem of vascular anomalies in children , in particular pathological tortuosity ( PI ) of the internal carotid artery ( ICA ) [ 4,15 ] . It is a congenital abnormality , a defect of embryogenesis [19]. In the modern literature are publishing a hereditary predisposition to this anomaly [4 , 6, 9 ] . PC ICA in childhood is seen as the cause of headaches, asthenic conditions , reduced intelligence, syncope , transient ischemic attack and ischemic stroke [ 6,8,15 ] . Ischemic brain damage in patologicheskoyizvitosti BCA due to a decrease or cessation of blood flow in the artery distal to the sites and inflection , as a consequence, reduced cerebral blood flow . [8] It is interesting to note that the manifestation of cerebrovascular insufficiency caused PK ICA Group of preschool and school age, has features.

Children younger age group debut sostavlyayutsleduyuschie disease symptoms : delayed speech development , later forming self-help skills , impaired adaptation in the collective anxiety and irritability. By 5-6 years join headaches. At school age, the early symptoms are - of headache ( headache bolbespokoit first after school , then - and vutrennie hours) , anxiety , fatigue, especially when reading , decreased performance, conduct disorder , decreased attention and the subsequent development , vtechenie 2-3 years cognitive disorders. According to Smirnov Yu , Earl E., 2009 , each of 10 patients with obsessive PC ICA marked movement in the form of various " grimacing " , coughing , jerking his head and shoulders. And in 15% of cases there is a hypothalamic syndrome manifesting obesity subfebrile tsentralnogogeneza , autonomic dysfunction , delayed puberty . In 4.3 % of school-age children in the PI loop ICA observed manifestations of vascular pathology of the brain in the form of transient ischemic attacks . First, the clinical picture is dominated by cerebral symptoms - prolonged headache, nausea , uncontrollable vomiting . Then , for 2 - 3h , join focal symptoms , lasting no more than 5 hours : numbness of the tongue and palate , aphasia , transient paresis hands and hemiparesis were observed on the contralateral side , the relative change in the arteries, a brief loss of vision in one eye - on the side of the loop . During magnetic resonance imaging in children with loop PI ICA were detected focal changes of the caudate and lenticular nuclei of vascular origin . It is important to note that the

group of children with hemodynamically insignificant deformation of the internal carotid arteries and in the healthy group were observed transient ischemic attacks . In this case , the delay of mental development , weak convergence and reflex hemiparesis found only in the group with PC ICA . The combination of PC ICA with hypermobility of the joints, scoliosis of the spine, diffuse hypotonia , torticollis is a manifestation of congenital weakness of the connective tissue in children. Bioelectric activity of the brain in children with PC ICA was changed in 78 % of cases. Predominant one of these violations were diffuse changes in cortical rhythms . In unilateral disease in 10% of patients tested was registered pathological hemispheric asymmetry . Hemodynamically insignificant deformation ICA accompanied by changes of bioelectric activity vnzachitelo fewer cases ( 20%), only in the form of diffuse lung changes. Vgrupe healthy children of pathological changes in the EEG recorded bylo.Takim no way pathological tortuosity of the internal carotid arteries is a common - pathology of childhood , occurring in 26.9 % of children at the same time is one of the causes of cerebrovascular insufficiency , transient ischemic blood flow and cerebral infarctions in children. Hemodynamic abnormalities in PC ICA are opredelyayuschimfaktorom affecting functional sostoyaniemozga child. Laws of infringement of the functional state of the brain during PC ICA children are diffuse changes in cortical rhythms , reducing the excitability of motor neurons of the cerebral cortex , slowing conduction of excitation along the pyramidal tract , visual pathway dysfunction according to visual evoked potentials . [ 4,6,8,9,19 ] .

For the diagnosis of migraine can use simple diagnostic algorithms that are already at the stage of first contact of the patient to the doctor can be suspected migraine, to send the profile expert inaznachit adequate therapy.

Diagnosis of migraine is based on data that gets neurologist at history and study the patient's complaints , comparing them with the diagnostic criteria for the disease , which is now referred to as " certain " or possible, which implies the uniqueness of their interpretation , ie minimizes the possibility of an alternative interpretation. According to the International Classification of Headache , 2nd edition, 2003 g.diagnosticheskimi criteria of migraine without aura are:

A. At least five attacks eligible B -D.

B. Duration of seizures 4-72 h (no treatment or ineffective treatment nom ) .

C. Headache has at least two of the following characteristics :

1. sided localization ;

2 . pulsating character ;

3 . the intensity of pain of moderate to significant ;

4 . headache worse by routine physical activity or requires termination routine physical activity (eg, walking, climbing stairs ) .

D. Headache is accompanied by at least one of the following symptoms :

1. nausea and / or vomiting;

2 . photophobia or phonophobia .

E. Not associated with other causes ( disorders ) .

At the same time , unlike many other neurological diseases in the vast majority of migraine patients to establish the diagnosis is not required for additional special methods of investigation , however , to exclude congenital anomalies of cerebral vessels is necessary to conduct auscultation of the neck vessels , and if necessary MRI angiorezhimom DS and GCA , EEG . If auscultation systolic murmur is heard , then the patient must angiorezhimom with MRI or MSCT angiography , which are usually detected deformation.



This figure shows the kinking type kinking , that is at an acute angle bend the left vertebral artery. In addition , according to HM Khalimova et al , 2013 , at a frequency of migraines 3-4 times a month , there is a picture of vascular encephalopathy. Expression of the characteristics of which depends on the frequency , course and severity of migraine than the age of the patients.

GCA on the DS normal vessel lumen diameter uniform tissue echogenicity below . Clearly visible intimal smooth inner surface of the carotid arteries. The thickness

of the intima - media less than 1 mm . Wall structure of the subclavian and vertebral arteries distinctly differs . Pathological elongation and tortuosity of the brachiocephalic artery is most often the result of atherosclerotic lesions of the vascular wall in patients with hypertension , sometimes it is due to congenital deficiency of the structure of the arterial wall ( AV Pokrovsky , 1992). According to the literature kinking recorded in 31% of patients with pathology of the brachiocephalic arteries . The shape distinguished: C-shaped , S- shaped bends at an acute angle and looped pathological tortuosity of the arteries.



The most important characteristic is the change in the spectrum of blood flow in tortuosity . If the crimp is recorded in the turbulence that byvaetkak usually in the presence of an acute or a right angle, such that crimp is considered hemodynamically significant. Hypoplasia of the arteries characterized by a decrease in their diameter : PA- less than 2.0 mm CCA - less than 4.0 mm, the BCA is less than 3.0 mm.

Interpretation of EEG data Pulatova SS, 2002 , showed that among patients with migraine patients was significantly less than normal I- type EEG compared with healthy individuals . At the same time , there is a statistically significant predominance of patients with type gipersinhronnym . In addition, attention is drawn to the fact that some patients with migraine and even tapped IV V type EEG , ie, disorganized type , which is not observed in the control group . And when comparing the data of patients with CM and NCM found that when normal CM I - EEG type occurs almost 2.5 times less than in the NCM . Moreover, in patients with CM more than twice prevail gipersinhronny and desynchronization EEG types and there is a tendency to an apparent predominance of disorganized types. In general , all testify to the deep dysfunction of nonspecific brain systems .

Thus , migraine , being chronically deterministic pathology requires a special approach to the management , diagnosis and treatment.

The main purpose of preventive, i.e. interictal, treatment is to reduce the frequency and severity of attacks [3, 11]. Migraine preventive therapy should be carried out if the patient experiences at least two heavy attacks for months. Treatment should be given for 6-12 months. [8] Of side effects should be minimized [3]. Still widely used in migraine prophylaxis dihydroergotamine, vazobral recently been criticized because they can cause "silent" lesions of cerebral ischemia. Particular caution should be exercised in patients over 60 years [8]. In recent years, widespread abroad in preventive treatment of migraine received antagonists of 5-HT<sub>2</sub> receptors have an effect tiserotoninovym [2,4, 8]. Methysergide (Dizer, sansert) is the most effective drug Antimigraine from this group. Removing the effect of serotonin, Dizer itself causes constant constriction of blood vessels, improves the tone of veins, helping to improve venous outflow and reduce intracranial hypertension. Perhaps Dizer acts not only through peripheral vasomotor regulation, but also through the central autonomic structures where serotonin is one of the mediators [2]. Some authors recommend limiting the use of methysergide, as it causes frequent side effects: cramps, insomnia, nausea, ataxia, depression. The most serious complication - retroperitoneal fibrosis, leading to disruption of ureteral patency and uremia. Fibrosis can affect the pleura, heart valves and other organs. To prevent such situations, we recommend taking 4-6 mg per day for 2 months, and then, after a break of 1 month, 2 months readmission. Methysergide therapy duration - 6 months (Moscowitz MA. Neurogenic versus vascular mechanisms of sumatriptan and ergot alkaloids in migraine. Trends Pharmacol Sci. 1992; 13:307-11). Cancelling the drug should be gradually over 6-8 weeks [2, 4, 8]. Another drug in the treatment of migraine is pizotifen (sandomigran, BC-105). He is considered one of the best Antimigraine funds because it has high efficiency and few weak side effects. Administered orally at a dose of 3 mg per day. The duration of therapy - 12 months. The drug causes severe protivoserotoninovy and antihistaminic effect. Furthermore, it acts antagonistically towards tryptamine and acetylcholine, and at the same time has not protivobradikininovymi properties, i.e. is protivoaminnym drug. Adverse reactions expressed in improving appetite and weight gain. Rarely observed drowsiness, which disappears in the course of treatment. Due to the similarity with tricyclic Timolepticheskoe means pizotifen has antidepressant impact stabilizes vasomotor responses [2, 4, 8].

For relief of migraine attack, a number of drugs used. To the first-line drugs (specific therapy) are selective agonists of 5-HT<sub>1</sub> receptors [1, 3-5, 8, 10, 12, 18]. They affect the basic pathogenetic mechanisms of migraine and are therefore among the most effective means available Antimigraine provide cupping even in

the expanded phase , have good bioavailability. These agents selectively act on serotonin receptors in blood vessels basin external carotid artery , blocking the secretion of substance P and trigeminal nerve endings prevent neurogenic inflammation [3 - 5 , 8 , 10, 12]. Unfortunately, quite expensive [11] , besides, they should be administered with caution in patients with arterial hypertension , coronary heart disease , other comorbidities cardiovascular and diabetes [4 , 12]. To increase the effectiveness of treatment with selective serotonin agonists , the following rules [4] :

- Only use cupping and not for preventive therapy of migraine ;

drugs should preferably be taken at the beginning of the pain attack (no later than 1 hour from the moment of its formation ) ;

- in case of insufficient reduction of pain and related symptoms during the day can still take 2 tablets at intervals of 3 hours, but not more than 3 tablets over 24 hours . [4]

Sumatriptan is used in a tablet (50, 100 mg) or injectable form by 6 mg subcutaneous administration in the form of a nasal spray . The efficacy of sumatriptan using any dosage form is 70 - 80 % . Operability patients recovered usually after 1 - 2 hours after subcutaneous application and after 3 - 4 hours of ingestion , irrespective of the dose of [3 , 4 , 8, 10]. Naratriptan tablets 2.5 mg . Since this drug half-life is 5 hours , it may be effective in relieving migraine attacks lasting . "Return headache" in the next 24 hours is less common than oral sumatriptan . [4] Zolmitriptan - 2.5 mg tablets . Effect occurs within 20-30 minutes. Zolmitriptan advantages over other triptans are: 1) higher clinical efficacy when administered orally , and 2) a more rapid achievement of therapeutic levels of the drug in blood plasma , and 3) minimal vasoconstrictor effect on coronary vessels [4 , 5]. Formulations of the second row - it is traditionally used in migraine ergots which possess activity against nonselective serotonin receptors (the bulk due to their side effects) , causing marked vasoconstrictive effect and alpha adrenoceptor blocking dopaminergic action capable of inhibiting the reuptake of norepinephrine , eliminate pain normalize blood flow, reduce the dilation of veins, arteriovenous shunting , have antiplatelet effect of [2 , 12]. Quite effective combination of ergotamine with caffeine amidopirinom , barbitalom , analgesics , sedatives , antihistamines. Recently there ergots as a nasal spray , their effect is rapid , less side effects [12]. Nevertheless , in cases of overdose or hypersensitivity to the drug may ergotaminovym chest pain , paresthesias and pain in the limbs , vomiting, diarrhea ( ergotism phenomenon ) [2 , 4]. Therefore, the maximum dose should not exceed 4 mg / day . The dose should not be repeated earlier than 4 days

and apply no more than 6 attacks in a month. Ergotamine and dihydroergotamine impractical to take patients aged over 65 years [8].

Ergotamine drugs and selective serotonin receptor agonists are currently the basic medications used for the relief of migraine attacks . It is also recommended reception painkiller simultaneously with antiemetics ( metoclopramide - pills or suppositories 10-30 mg; Levomepromazine - 10-50 mg tablets or intramuscularly 12.5-25 mg domperidone - 20-30 mg tablets or suppositories 30-60 mg ) which accelerate gastric emptying and analgesic absorption when a headache [4 , 8]. Because, during a migraine attack occurs hypotension gastrointestinal tract , which makes the absorption of drugs. Particular attention deserves preparative difmetre rat . Since , in a three component composition which on the one hand stimulate the other compete with gastrointestinal disorders including vomiting and pain relievers . The drug is available in the form of effervescent tablets. Take , dissolving tablet in a glass of cold water. Convenience is further that it can be taken at the beginning and in the advanced stage of attack. If no effect , the second tablet may be taken not earlier than 3 hours after the first pill. Side effects , gastric ulcer and 12 duodenal ulcer, liver disease , hypersensitivity . Disadvantage relative high cost .

As in the treatment of migraine has been used successfully for the preparation of vegetable based , called Tanamigren . Low price and high performance puts him among the drugs of choice in the treatment of migraine . Since it , with the composition of feverfew , inhibits the release of serotonin from platelets, reducing their aggregation , adhesion , and prevents release of 14C - arachidonic acid and the formation of thromboxane , may therefore be used to prevent migraine. Besides, the medicament reduces the severity of gastrointestinal disorders ( nausea , vomiting ) associated with migraine . Furthermore, tanamigren inhibits prostaglandin biosynthesis , indicating that the acceptability of his appointment with menstrual migraines . Contraindication to the use of the drug is a hypersensitivity to other members of the family of monochrome (Astraceae), which include chamomile. Tanamigren should not be taken during pregnancy and breastfeeding. It should be noted that about 10 % of patients had used tanamigren to treat migraine and suddenly discontinued its use , felt the return of headaches , insomnia, muscle stiffness , so stop taking the drug should be gradual. Dosage : Take 1-2 capsules daily after meals with water . Desirable first capsule taken after breakfast , the second - afternoon. In pack 60 capsules , which is the important.

Thus , in-depth study of the pathogenesis of migraine will contribute to its prevention, improve the quality of life for patients , as well as the emergence of new effective antimigraine drugs [ 1] .



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