Individualized herbal medicine algorithms I.L. Blinkov, T.L. Kiseleva, A.A. Karpeev (Federal Scientific Clinical and Experimental Center for Traditional methods of diagnostics and treatment of Roszdrav, Moscow)

Rational phytotherapy can become a significant help in restoring, preserving and maintaining the health of the population, if the knowledge and skills of clinical pharmacologists (in the diagnosis of the disease substrate and the optimal correspondence of its factors to the predicted effect of biologically active substances) are combined with information on the content of these biologically active substances in plants and about adequate technology for their isolation and shaping into medicinal products.

A scientifically substantiated classification of plants by the content of biologically active substances, taking into account the mechanisms of their action most relevant for practice, was first published in the "Brief Encyclopedia of Herbal Medicine" in the form of summary tables that are of practical importance for specialists [1].

Attention should be paid to the inadequacy of the conventional wisdom that since plants are of natural origin, they are a priori devoid of undesirable side effects. Moreover, scientifically based herbal medicine requires adherence to certain principles.

In addition to the general principles and rules of herbal medicine, reflected in the regulatory documents [4], we give some practically significant recommendations that will undoubtedly be in demand when prescribing an individualized herbal medicine. Of plants with the same type of mechanism of action (for example, containing astringent factors), it is often enough to take one, but taking into account the predominant effect on the pathologically altered organ (for example, the stomach) or several organs (for example, for gastritis, colitis with diarrhea and cystopyelitis, the means of choice will be alder infructescence). All other things being equal, a plant is chosen, sometimes even a food plant [3], which is better tolerated in terms of organoleptic qualities (for example, blackberries in the form of jam from fruits and leaves are much better tolerated in terms of taste than a decoction from alder seedlings).

Despite the fact that historically in Russia, phytotherapy was often used with the help of a single plant, called "magic" in Russia, almost at present it is rarely possible to stop a specific clinical syndrome by using only one plant (for example, for intestinal diarrhea - chokeberry, for constipation - rhubarb). More often, clinical syndromes are the final link of a multilevel lesion of various organs, and even various variants of the pathological process.

Therefore, to enhance the therapeutic effect, it is recommended to select medicinal plant raw materials with a similar desired clinical effect on the function and / or structure of the system, organ, smooth muscles, mucous membranes, but containing different biologically active substances capable of influence in the right direction on different receptors, mediators, carriers. When creating a multicomponent phytopreparation, herbal ingredients are usually added to the ingredients containing the main active principle to correct the taste, improve absorption, and level the local irritating effect on the mucous membranes of the stomach and small intestine [2, 5]. In addition, components are introduced that improve the functioning of the associated organs and systems of the patient (for example, the kidneys - in a patient with liver pathology).

Since the pathogenetic mechanisms are not always known or, on the contrary, a multifaceted substrate of the disease is predicted, additional ingredients are added to the drug that have corresponding biologically active substances. For example, with bronchitis, secretolytic and secretomotor (reflex) antispasmodics (myotropic, M-anticholinergic, beta-adrenostimulants and narcotic), enveloping, antiseptics and antimicrobials are used simultaneously, astringents (anti-inflammatory),

membrane stabilizing, anti-inflammatoriynsmbstaccoresctors, adaptagens, plant origin.

Such an approach should be recognized as rational, since the toxicity decreases and the clinical efficacy of the phytopreparation increases, with the exception of possible various kinds of incompatibility. For example, preparations of valerian (Valeriana officinalis L.) and other plants with an aminazine-like effect noticeably reduce the main types of action of cardiac glycosides, and preparations from plants with an antidiabetic effect can provoke the toxic effect of cardiac glycosides.

At the final stage of plant selection, including food [3], predicted side effects are assessed. The latter can be the reason for absolute contraindications for use in a particular patient (for example, blackberry jam - in a patient with diabetes mellitus) or a relative contraindication, which can be compensated in advance either by the technology of manufacturing the dosage form (for example, adding mucus-forming components to the collection to level the irritating local sokogonny action), either by the peculiarities of the intake (strictly during meals, or dilution in water, juice, or resorption of the tincture with sugar or honey), or by taking another plant separately (for example, when using astringent components in connection with gastritis in a patient with concomitant atonic constipation, add the officinal tablet form of senna, buckthorn or rhubarb). It should always be borne in mind that drugs selected for sokogonny effect, for example, on the bronchi or urinary tract, when passing through the gastrointestinal tract, have a similar local irritating effect at the level of the stomach, pancreas and intestines. Consequently, it becomes necessary to correct the predicted side effect either medically (omez), or by introducing additional components (mucus-forming, astringent) into the composition of the individual herbal collection.

It must be remembered that the "substrate of the disease" largely depends on the stage of the disease, the phase of activity, which determine the dynamics of contraindications for the same nosological form. For example, for colitis with diarrhea, local

the irritating effect on the stomach of alder seedlings with concomitant gastritis or remission of peptic ulcer disease is a relative contraindication, and with exacerbation of peptic ulcer disease or erosive esophagitis acts as an absolute contraindication.

When compiling the collection, one should take into account the possibility of its stratification [6], irrational interaction of biologically active substances during extraction and storage, and many other factors that can lead to a weakening or even complete loss of therapeutic value or the appearance of undesirable side effects.

Cardiac glycosides are incompatible with phenols (lingonberry, bearberry, male fern, golden root (Rhodiola rosea), initial cap, red viburnum, leuzea). It is irrational to combine mint, valerian and various representatives of the celery family (large ammonia, dill, coriander, anise, caraway seeds, bullock, parsnips, carrots, celery, parsley).

Tannins with alkaloids (hypnotic poppy, yellow macho, barberry, Stephanie, rauwolfia, chilibuha, pink periwinkle, roseberry, cocoa, coffee, thermopsis, henbane, datura) form water-insoluble compounds and destroy cardiac glycosides.

In connection with the participation of the central nervous system in the pathogenesis of almost any pathological syndromes, psychotropic ones are added - soothing or, conversely, tonic.

Anti-inflammatory drugs with a catabolic mechanism of action (such as salicylates) are contraindicated in inflammation, erosion and ulcers of the esophagus, stomach and duodenum due to the fact that they prevent the regeneration of rapidly multiplying cells of the mucous membrane itself, and not only the inflammatory infiltrate, and block the synthesis of protective mucus ...

Below are the optimal schemes for prescribing phytotherapy for some nosological forms of diseases and syndromes. [1]...-

Gastroduodenitis: astringent + mucus-forming + secretolytic. Enterocolitis: astringents + mucus + antiseptics or

antibacterial (for putrefactive dyspepsia with an alkaline reaction of feces, salicylates, ascorbic or malic acid are used; in other cases, imanine and thymol are preferred) + secretolytic + azulene + seduxen-like.

Cholecystitis: astringents + antiseptics (phytoncides, terpenes, thymol) + sokogonny.

Hepatitis: general tonic, including enzyme inducers + vitamins(except for vitamins A and E - immune adjuvants) + non-specific metabolic correctors (especially milk thistle and rutabaga).

Stomatitis: astringents (of the same type as for the stomach) + antiseptics (thymol,imanin) + biostimulants + wound healing. All specified fundsapplied topically (rinsing, smearing).

Cystitis and pyelocystitis: sokogonic (taking into account the salt composition of urinarysediment) + astringents + antiseptics (salicylates, terpenes, especially thymol, hydroquinone, phenol, imanine, organosilicon) + myotropic antispasmodics +

beta-adrenostimulants or M-anticholinergics + purine receptor antagonists.

Bronchitis: sokogonny + astringents + mucus-forming + antiseptics (salicylates, phytoncides, terpenes, especially thymol, organosilicon,fall asleep, imanin,echinacea)+ myotropic antispasmodics + beta adrenostimulants + sundew and other homeopathic remedies (henbane, mistletoe,plow, ivy, lumbago) + purine receptor antagonists.

Acute respiratory illness and febrile syndrome: sokogonic(diaphoretic) + antiseptics (salicylates, phytoncides, terpenes, especially thymol, hydroquinone, organosilicon) + biostimulants + cytisine + vitamins + non-specific metabolic correctors + external distractions (on the chest, calf muscles) + chin (for thermoregulation) + homeopathic medicines (belladonna, black elderberry).

Arthritis and myositis: salicylates (in the acute phase) or biostimulants (for sluggish flow) + ascorbic acid + curariform + external distracting + homeopathic remedies (wild rosemary, barberry, crocus, lumbago, rhododendron, sumac) + adrenal cortex stimulants.

Peripheral neuritis: salicylates or biostimulants + vitaminsgroup "B" + strychnine-like + external distracting.

Thrombophlebitis: salicylates (enteral) + biostimulants (ointmentcompresses) + indirect anticoagulants + with concomitant varicose veins, venotonic agents are used (rutin; venoruton;glivenol; virgin walnut; chestnut bark; clefthoof; pion). Outwardly - astringentor proteolytic enzymes.

Furunculosis: salicylates (enteral) + exfoliating (up to the stagepurification from pus) + wound healing + biostimulants + metabolism correction (individually).

Dermatitis: astringent (topical) + wound healing + antiseptics forconcomitant microbial infection (imanin,thymol, fall asleep)+ antiallergic (spurge; dioscorea).

Psoriasis: Exfoliating + Photosensitizing. Herpetic skin lesions: pine resin (before the stage of cleansingwound surface), then wound healing; biostimulants of local and resorptive action are shown; ipecacuana (root) emetine; homeopathic remedies - euphorbia. Independently used: velvet (leaf), desmodium (grass), kopeck plant (grass), kopeck plant lespedeza (grass).

Erosive and ulcerative pathology of the stomach and duodenum 12: astringent +mucus-forming + secretolytics + myotropic antispasmodics + betaadrenostimulants + wound healing, biostimulants and vitamins A and E (without local irritant effect) + aminazine-like and seduxen-like (with correction of local irritant action).

It should be borne in mind that almost all biostimulants and wound-healing agents irritate the mucous membranes, especially in the case of an erosive-ulcerative and inflammatory process. Therefore, monotherapy of peptic ulcer with drugs such as allanton and kaleflon cannot be considered justified and rational at all.

Skin wounds and ulcers: See treatment of herpetic skin lesions. Kidney stone disease: sokogonic (taking into account the salt composition of urine) + myotropic antispasmodics + purine receptor antagonists + beta-adrenostimulants or M-anticholinergics + diet in accordance with the mineral composition of plants (taking into account the salt composition of urine). See also official drugs: avisan; artemizole; desurol; marelin; pinabin; urolesan; uroflux;phytolysin; cystenal; enatin; madder dye extract dry andmedicinal plant materials: madder (rhizome and root), wild carrot (fruit), knotweed (grass).

Diabetes mellitus: hypoglycemic + vitamins (except "K"), infeatures "B6" and "PP" + nonspecific metabolic correctors + predominant use of fiber in food + M-anticholinergics (before bedtime).

Atherosclerosis: hypocholesterolemic + vitamins (except "K") +restriction of calcium salts in food.

Hypochromic anemia: iron salts + vitamins (except "K") +non-specific metabolic correctors.

Hair care products: phytoncides + organic acids(salicylic, ascorbic, apple) + vitamins + wound healing (especially oils) + tanning with oily seborrhea.

Dyskinesias of the gastrointestinal tract and biliary tract:

1) with hypermotility: astringent + myotropic antispasmodics + vitamin "PP" + beta-adrenostimulants or M-anticholinergics + ergot + azulene + aminazino and seduxen-like;

2) with reduced motility: reserpine-like + beta-blockers + corresponding sokogonny + ergot + mucus-forming;

3) with flatulence: correction of the secretory and motor function of the gastrointestinal tract + removal of inflammation + elimination of dysbiosis with appropriate antiseptics.

Anacid state: sokogonic + salicylates, ascorbic and appleacid + phytoncides + beta-blockers + reserpine-like.

Spastic dyskinesias of the urinary tract: sokogonic (taking into account the salinecomposition of urinary sediment) + myotropic antispasmodics + betaadrenostimulants or M-anticholinergics + aminazine-like.

Bronchospasm and cough:myotropic antispasmodics + beta adrenostimulants or Mholinoblockers + sundew + aminazine-like + purine receptor antagonists.

Angiospasm: an increase in the diet of potassium salts (instead of sodium) + myotropicantispasmodics + beta-adrenostimulants (in the absence of tachycardia) + ergot + aminazine-like + H-anticholinergics + reserpine-like.

Arterial hypertension: an increase in the diet of potassium salts (instead of sodium) + reserpine-like and beta-blockers + diuretics + aminazine-like

+ H-anticholinergics + myotropic antispasmodics.

Arterial hypotension: alpha-adrenostimulants + M-anticholinergics

+ biostimulants + strychnine-like + mineralocorticosteroids.Asthenic syndrome: see treatment of arterial hypotension + vitamins(except for "PP", "K") +

nonspecific metabolic correctors + homeopathic remedies (oats; cinchona).

Circulatory failure: cardiac glycosides + potassium salts +cytisine + sokogonnye on the urinary tract + vitamins (except for "PP" and "K") +non-specific metabolic correctors.

Uremia: a decrease in food potassium + iron salts + vitamins +non-specific metabolic correctors.

Arrhythmias: aymalin and pulse rate; allapinin; quinidine; hawthorn (fruit,flowers) + potassium salts.

Uterine bleeding: vitamin "K" + rutin + astringents + stimulantsbone marrow for platelet synthesis + myotropic stimulants of myometrium contraction and betablockers + H-anticholinergics.

Antiperspirants: astringent for sweat glands +M-anticholinergics + cholinesterase inhibitors.

Malignant neoplasms: exfoliating + antitumor + non-specific metabolic correctors + biostimulants.

Parasitic diseases: various antiparasitic agents.

As a result, with the individual selection of medicinal plants, multicomponent mixtures are naturally obtained.

To facilitate the use of phytopreparations, packaging in filter bags for brewing and toffee-like kafiol is convenient for the consumer. After chewing, swallowing is relevant for biologically active substances acting on gastrointestinal waste, and resorption - for factors acting systemically after redistribution in the body.

First of all, clinical indications for a particular patient (nosology, syndrome) are identified. Then the question is decided what levelcoordination of cooperative functions determines the substrate of the disease, and then -individual symptoms additional to the main pathology.

The variety of individual characteristics of the course of the main and concomitant diseases complicate the manufacture of standard fees in production [2, 5], and the manufacture of the final product "for all occasions" dramatically increases its cost and increases the risk of adverse reactions.

Therefore, below we give examples of the implementation of the so-called "block", or syndromic (taking into account individual symptoms), methods of individual selection of fees.

I. Indications: neurasthenic syndrome, chronic tiredness

Coordination Level (CM):

1. Syndrome of irritable weakness of the central nervous system:

1.1. Increased excitability.

1.2. Rapid exhaustion.

2. Individual symptomatology (IS):

2.1. Anxiety.

2.2. Fears.

2.3. Insomnia.

2.4. Dizziness and staggering.

2.5. Pain in the region of the heart.

2.6. Tachycardia.

2.7. Bradycardia.

2.8. Arterial hypertension.

2.9. Arterial hypotension.

2.10. Retention of fluid in the body.

2.11. Inflammation of the bronchi.

2.12. Inflammation of the urinary tract.

2.13. Poor appetite, gallbladder hypotension, nausea.

2.14. Constipation.

2.15. Diarrhea.

лрс	«Мишень» в организме	
	УК	ИС
адонис (трава)	1.1	2.6-2.10
арника (цветки)	1.2	2.6-2.9
боярышник (цветки, плоды)	1.1	2.6
валериана обыкновенная (корневища и корни)	1.1	2.7-2.14
гинкго билоба (листья)	1.2	2.4-2.9
душица (трава)	1.1	2.13-2.14
женьшень (корень)	1.2	2.13
зверобой (трава)	1.1	2.2-2.15
имбирь (корневище)	1.1	2.4
левзея (корневище с корнями)	1.2	2.14
лимонник (плоды, семена)	1.2	2.7
мелисса (трава)	1.1	2.10
мята (листья)	1.1	2.5
пассифлора (трава)	1.1	2.3
пустырник (трава)	1.1	2.3-2.15
родиола (корневище)	1.2	2.11
укроп (плоды)	1.1	2.13
хмель (шишки)	1.1	2.1
элеутерококк (корневища и корни)	1.2	2.9

Target series of "blocks" (CSB):

The choice of the "block" is based on the coincidence of the "target" of the factor with the CC and IS.

II. Indication: non-specific metabolic disorder

- 1. CC in accordance with the predominance of the impaired sign of homeostasis:
- 1.1. Organic metabolites.
- 1.2. Vitamins.
- 1.3. Microelements.
- 1.4. Microsomal oxidation.
- 1.5. Organ dysfunction:
- 1.5.1. Kidneys;
- 1.5.2. Liver;
- 1.5.3. Bone marrow (platelet synthesis).
- 2. IP:
- 2.1. Anemia.
- 2.2. Granulocytopenia.
- 2.3. Thrombocytopenia.
- 2.4. Decreased albumin levels.
- 2.5. Waste organ diseases:
- 2.5.1. Kidney;
- 2.5.2. The liver;
- 2.5.3. Lungs;
- 2.5.4. Hearts.
- 2.6. Immunodeficiency states.
- 2.7. Chronic intoxication (household, professional).

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Лечебный фактор (в том числе растительного	«Мишень» в организме	
происхождения)	УК	ИС
у-аминомасляная кислота (аминалон)	1.1	2.1-2.7
артишок (листья)	1.5.1-1.5.2	2.1 - 2.7
аспаркам	1.1	2.1-2.7
глицин	1.1	2.1-2.7
капуста цветная	1.4	2.1-2.7
кунжут (семя)	1.5.3	2.1-2.7
леспедеза (трава)	1.5.1	2.5.1
лимонтар	1.1	2.1 - 2.7
поливитамины	1.2	2.1-2.7
расторонша (плоды)	1.5.2	2.5.2
рибоксин	1.1	2.1-2.7
цыганан	1.3	2.1-2.7
шпинат (листья)	1.4	2.5.2

CSB:

III. Indication: constipation

(combination of rare - after 1-7 days - stool with flatulence, intoxication, abdominal pain)

1. UK:

1.1. Atony.

1.2. Spastic dyskinesia of the large intestine.

1.3. Anatomical features (dolichosigma, megacolon, postoperative

state).

2. IP:

2.1. Against the background of increased gastric acid production.

2.2. Against the background of low fiber intake.

CDD.		
Лечебный фактор растительного происхождения	«Мишень» в организме	
	УК	ИС
аир (корневище)	1.1; 1.3	-
выонок полевой (трава)*	1.1	<u> </u>
жостер (плоды)	1.1; 1.3	200
капуста морская (слоевища)	1.1; 1.3	2.2
клещевина (семя)	1.1; 1.3	-
крушина (кора)	1.1; 1.3	÷.
лен (семя)	1.1-1.3	2.1
мята (листья)	1.2	
подорожник блошный (семя)	1.1-1.3	2.2
ревень (корневище)	1.1; 1.3	
сенна (листья, плоды)	1.1; 1.3	
солодка (корни)	1.1	2.1
сухофрукты	1.1-1.3	2.2
укроп (плоды)	1.2	-
хмель (шишки)	1.2	

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CC	п.	
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IV Indications: diarrhea

(liquid or mushy stools more than 2 times a day at different times, with imperative urges, abdominal pain, unpleasant odor)

1. UK:

1.1. Inflammation of the mucous membrane.

2. IP:

2.1. Achilia and / or exocrine pancreatic insufficiency

glands.

2.2. Putrid dyspepsia.

2.3. Spastic dyskinesia of the colon ("constipation diarrhea").

2.4. Hypersecretion of the stomach.

CSB:

Лечебный фактор	«Мишень» в организме	
растительного происхождения	УК	ИС
горец змеиный (корневище)	1.1	2.4
горец перечный (трава)	1.1	2.4
гранат (околоплодник)	1.1	2.4
дуб (кора)	1.1	2.4
ежевика (плоды, листья)	1.1	2.4
зверобой (трава)	1.1	2.4
кориандр (плоды)	1.1	2.1
кровохлебка (корневище)	1.1	2.4
лапчатка прямостоячая (корневище)	1.1	2.4
мята (листья)	1.1	2.1
ольха (соплодия)	1.1	2.4
ромашка (цветки)*	1.1	2.2
рябина обыкновенная (плоды)*	1.1	2.2
рябина черноплодная (плоды)	1.1	2.4
тысячелистник (трава)*	1.1	2.2
укроп (плоды)*	1.1	2.2
хмель (шишки)	1.1	2.3
черемуха (плоды)	1.1	2.4
черника (плоды, побеги)	1.1	2.4
чистотел большой (трава)	1.1	2.3

* не имеет вяжущего действия

V Indications: diabetes mellitus

1. UK:

1.1. Nonspecific stimulation of the insular pancreatic apparatus glands.

1.2. Induction of microsomal oxidation (with accelerated biotransformation contrainsular hormones).

1.3. Containing trace elements:

1.3.1. Manganese;

1.3.2. Chromium;

1.3.3. Zinc.

2. IP: individual contraindications are taken into account (allergy; gastric hypersecretion; chronic gastritis and colitis).

CSB:

Лечебный фактор	«Мишень» в организме		
растительного происхождения	УК	ИС	
банан (незрелые плоды)	1.1		
девясил (корневища и корни)	1.3.2		
зверобой (трава)	1.3.1; 1.3.3	1	
календула (цветки)	1.3.2		
капуста любая	1.2		
козлятник (трава)	1.1		
кранива (листья)	1.1		
кукурузные рыльца	1.1		
лопух (корни)	1.1		
овес (трава)	1.1		
одуванчик (корни)	1.1		
орех грецкий (лист)	1.1		
портулак (трава)	1.1		
пустырник (трава)	1.3.3		
расторопша (плоды)	1.2*		
ромашка (цветки)	1.3.1; 1.3.2		
солодка (корни)	1.3.2		
турнепс (корненлод)	1.2		
фасоль (створки, шелуха семян)	1.1		
черника (лист)	1.3.1		
шпинат (листья)	1.2	1	
ячмень (солод)	1.1		

* после улучшения состояния печени

Conclusion

Individualized herbal medicine is the most rational. For its purpose, we have developed scientifically based algorithms and principles for combining ingredients.

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[1] The names of medicinal and food plants are italicized, the names of finished medicinal products based on medicinal plants are in bold italic.

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