Medicinal tea collection.

1. Medicinal tea collection technology.
2. Methods of analysis of medicinal tea collections.
3. Nomenclature, application in medicine.

Medicinal tea collection are one of the oldest medicinal forms, but have retained their importance to this day. In the past, the medicinal tea collections were widely used, but in recent times, they are produced directly in pharmacies relatively rarely. Many medicinal tea collections are made according to standard prescriptions in pharmaceutical factories and plants, in pharmacies they come ready-made.

The popularity of medicinal tea collections is explained by the effectiveness of action, affordability for the population. The State Register includes about 40 different types of medicinal tea collections and their number is constantly increasing.

Medicinal tea collections are mixtures of several types of crushed, less often whole, medicinal plant raw materials, to which are sometimes added salts, essential oils and other substances used as medicines.

Different parts of plants (roots, bark, herbs, leaves, flowers, seeds, etc.) containing a variety of active and related substances are used in the form of collections.

The advantages of tea collections as a medicinal form include the availability of raw materials and comparative ease of manufacture.

But their significant disadvantages are: the incompleteness of collections as a medicinal form (the need for additional processing by the patient himself, ie preparation of collections of infusions, decoctions) and inaccuracy of dosages when used. In this regard, as part of the collection do not prescribe poisonous substances.

Classification of tea collections.

Collections are classified according to their dosage and medical use.

According to the dosage of collections can be: undosed (Species indivisae) and dosed (Species divisae). In modern medical practice, dosed collections are rarely used.

According to the medical use, the collections are divided into collections for external use (Species ad usum externum) and for internal use (Species ad usum internum).

According to the method of application and purpose, the following types of collections are distinguished:

- tea collections for the preparation of infusions and decoctions (Species ad infusa et decocta) - the most common type of collections;
- tea collections for wet soaks, or softening (Species ad cataplasmata);
- tea species ad cataplasmata (Species ad cataplasmata);
- tea collections for dry soaks (Species ad fomintationes sicca);
- tea collections for baths (Species pro balneo) - these collections are added to a therapeutic bath);
- smoking tea collections (Species fumales) - used for direct exposure to smoke, by burning a certain portion of the mixture, as well as in the form of cigarettes and cigarettes. The most commonly used is the anti-asthmatic collection. They consist of a mixture of particles of various raw materials ground to the same size.

The smoking tea collection usually includes 10 per cent sodium nitrate, so that once the collection is ignited, an even burning is maintained.

Depending on the nature of pharmacological action collections are also classified into the following types:

- 1. for internal use:
- 2. for external use: for gargling the throat, etc.
- For internal use:
- o thoracic - Species pectorals;
- o expectorant - Sp. expectorantes;
- o laxative - Sp. laxantes;
- o stomachic - Sp. stomachicae;
- o diuretic - Sp. diureticae;
- o diaphoretic - Sp. diaphoreticae;
- o carminative - Sp. carminativae;
- o vitamin - Sp. vitaminicae;
- o appetite stimulating - Sp. Amarae;
- o anti-haemorrhoidal - Sp. Antihaemorroidales.

Medicinal tea collections are now often given proprietary names:

Arphasetinum - Arphasetinum - antidiabetic;

Myrphazinum - Myrphazinum - hypoglycaemic;

Elecasol - Aelecasolum - anti-inflammatory, stimulating reparative processes;

Brusniverum - Brusniverum - diuretic;

Herbafol - Herbafol - diuretic.

Sometimes the name of the collection is given by the name of the author. For example, the collection of M.N.Zdrenko № 1 and 2 for the preparation of a mixture used in anacid gastritis and some oncological diseases, especially in the initial stages.

PREPARATION OF TEA COLLECTIONS

Raw materials used for the preparation of tea collections must comply with the requirements of the regulatory documentation.

The preparation of tea collections consists of grinding each type of plant material, sieving and mixing it, as well as adding other substances, if they are prescribed in the composition of the collection.

Crushing and sieving of plant materials.

Plant raw materials included in the composition of collections, should be previously individually cut or ground to a certain fineness.

The degree of grinding of raw materials included in the composition of collections used for the preparation of infusions and decoctions, must comply with the requirements of the article "Infusions and decoctions".

Crushing in pharmacy conditions is done manually with a knife, scissors or cutter, and in factories - with special machines. Crushing must be uniform, otherwise the mixture may stratify.

Leaves, herbs and bark - used in cut form;

leathery leaves are made into a coarse powder;

roots and rhizomes are cut or crushed depending on their shape, size and hardness;

fruits and seeds are passed through rollers or mills;

some fruits and seeds are taken whole;

flowers and small flower baskets, except linden, are used whole, or crushed.

In all cases of pulverisation, the dust is sieved through a sieve with 0.18 mm holes.

Sometimes plant raw materials must be subjected to some kind of processing prior to grinding, e.g. to be cleaned of dust or other foreign impurities, very large parts of the raw material must be pre-crushed into smaller parts (for ease of subsequent grinding), etc. The raw material to be ground must have proper humidity.

To eliminate spraying very dry plant raw materials are recommended to pre-wet 15-25% of water, then immediately after grinding dried at a temperature of 40 °, otherwise when stored raw materials can get mouldy, and the active ingredients contained in it - decomposed.

Mixing.

The mixing of the plant raw materials is carried out taking into account their volume. Accordingly, crushed raw materials are carefully and thoroughly mixed

Mixing small amounts of crushed raw materials in the manufacture of collections are made on a sheet of glossy paper or on a glass plate with a spatula, capsulatorka or horny spatula to obtain a uniform mixture. Crushed plant raw materials entering in significant quantities are mixed in large porcelain or enamelled cups using a spatula.

Do not grind the plant material in a mortar, as a very fine powder is obtained.

Adding other medicinal substances to the collections.

1. If the collection is required to add essential oil, it is dissolved in 90 ° alcohol in a ratio of 1:10 and the finished collection, scattered in a thin layer on a glass plate, sprayed with a sprayer while stirring this solution, and then dried at room temperature.

2. If it is necessary to add salt, it is made of a saturated solution, which sprayed the collection, and then the collection dried also at a temperature not exceeding 60 °.

3. If the salt is poorly soluble in water and prescribed in the collection in large quantities, then usually one of the components of the collection is wetted with 70 ° alcohol or water and sprinkled with a prescribed amount of finely ground salt.

For this purpose it is best to take the constituents of the collection containing a considerable quantity of mucilaginous or extractive substances, which give a sticky surface when wetted.

4. Hygroscopic and easily spoilt by moistening materials are added after the crushed plants have been treated with salt solution and dried.

DOSED COLLECTIONS (Species divisae)

Strongly potent medicinal plants may be prescribed in the form of dosed collections, so each dose of the collection is packaged separately. Salts are mixed in the form of a fine powder.

Pressed medicinal tea collections (Species compressae)

Pressed medicinal tea collections take the form of tiles (briquettes) with grooves for easy division into individual doses or flat plates.

Compared to conventional tea collections, they have greater stability, allow more accurate dosing of individual doses and more convenient for transport and storage.

They are made at pharmaceutical plants by pressing crushed plant material and other substances included in the tea collection.

STORAGE AND DISPENSING OF COLLECTIONS

Collections should be stored in a dry room, in closed boxes, not exceeding the terms regulated by regulatory documents.

Collections containing odorous raw materials are stored in tin boxes with lids.

It is recommended to place a jar with cotton wool soaked in 1-2 ml of chloroform in a box with plant raw materials for protection against plant pests, and from time to time, as chloroform evaporates, add it.

Prepared collections are wrapped in parchment paper or cellophane and packed in paper bags or cardboard boxes, and those containing odorous raw materials - in glass bottles with stoppers or in tin boxes.

ANALYSES OF COLLECTIONS.

Analyses is carried out according to the requirements of the pharmacopoeial article of the State Pharmacopoeia 1.4.1.0020.15 Medicinal tea collections (Species).

External signs.

Medicinal tea collections are a mixture of several types of crushed or whole medicinal plant material with morphological features characteristic of the components that make up the collection.

Medicinal tea collections are crushed. An analytical sample of 10.0 g is taken from the average sample of the crushed collection, placed on a clean smooth surface, a visual inspection is performed, recording compliance of the colour, smell of the collection and, if necessary, taste of the aqueous extract of the collection with the requirements of the pharmacopoeial article or regulatory documentation. Then in the sample determine the components of the tea collection by appearance, examining them with the naked eye, as well as with a magnifying glass (10×) and stereomicroscope (8×, 16×, 24×, etc.). It is necessary to confirm the morphological features of individual species of medicinal plant raw materials included in the collection, indicating the type of raw materials.

Medicinal tea collections-powders. An analytical sample of 10.0 g is taken from the average sample of the collection-powder, placed on a clean smooth surface, a visual inspection is carried out, recording compliance of the colour,

smell of the collection and taste of the aqueous extract of the collection with the requirements of pharmacopoeial articles or regulatory documentation.

In the case of obtaining collections from raw materials of other methods of processing (cut and pressed, etc.) analysis of external signs described in the pharmacopoeial article or normative documentation.

Microscopic features

Collections are subjected to microscopic analysis in accordance with the OFS "Technique of microscopic and microchemical examination of medicinal plant raw materials and medicinal plant preparations".

Medicinal tea collections are crushed. From the analytical sample is taken 25 - 30 homogeneous in appearance particles of each component of the collection and from several pieces of preparations are prepared, which are then examined under a microscope to determine the type of raw material.

In the study of the main features should be diagnosed all components of the tea collection, microphotographs of the main anatomical-diagnostic features of components should be given in the pharmacopoeial article or normative documentation.

Powder tea collections. A part of the analytical sample is placed on a clean smooth surface and according to the external features the constituent components of the tea collection are distinguished by examining them with the naked eye and with a magnifying glass (10×) or stereomicroscope (8×, 16×, 24×, etc.). For each component, a sufficient number (but not less than 5) of pieces homogeneous in appearance are selected and from several selected pieces, microdrugs are prepared according to the method of preparation of microdrugs from crushed medicinal plant material. The presence of diagnostic features characteristic of individual components of the collection is noted. Microphotographs of the main anatomical-diagnostic features of the components should be given in the pharmacopoeial article or regulatory documentation.

In the case of obtaining tea collections from raw materials of other processing methods, the analysis of microscopic features should be described in the pharmacopoeial article or normative documentation.

Qualitative microchemical and histochemical reactions

Conducted in microdrugs of collection components in accordance with the requirements of the pharmacopoeial article "Technique of microscopic and microchemical examination of medicinal plant raw materials and medicinal plant preparations".

From the average sample an analytical sample of 10 g is taken for qualitative reactions, tests by chromatographic and spectral studies.

Qualitative reactions

Qualitative reactions are carried out directly on the components of the collection and / or with extracts from the collection with the name of the group / groups of biologically active substances or detectable individual compounds according to the methods given in pharmacopoeial articles or regulatory documentation for medicinal plant raw materials. The reactions used should be specific for biologically active substances of the components of the collection. When the collection contains various substances of natural, mineral and synthetic origin, their identification is carried out using appropriate qualitative reactions.

In accordance with the current pharmacopoeial articles, the tea collections are subjected to the following types of analysis:

- Chromatographic analysis
- Spectral analysis (UV-spectrum)

For tea collections from medicinal plant raw materials of various methods of processing determine:

- the content of biologically active substances that determine the pharmacological effect of the extract from the tea , the methods of determination of which are specified in the relevant pharmacopoeial articles or normative documentation for medicinal plant raw materials;

- moisture content;

- content of total ash and ash insoluble in hydrochloric acid;

- pulverisation and content of impurities.

- homogeneity of the mass for dosed and undosed collection

- stock pest infestation

- radionuclides

- heavy metals

- pesticide residues

- microbiological purity

- quantitative determination

Quantitative determination of biologically active substances (individual compounds or the sum of substances in terms of an individual compound), responsible for the pharmacological action of the aqueous extract from the tea collection, is carried out by various chemical, physicochemical and other validated methods. Methods of determination (one or more) should be specified in the pharmacopoeial article or regulatory documentation.

NOMENCLATURE, MEDICAL USE

Medicinal tea collections are compiled according to the pharmacotherapeutic principle and systematised on the basis of their preferential use in medical practice.

Collections indicate not only the composition of herbs, but also the applied organs of HR, their quantity. The combination of herbs, their dosage is based on medical data.

The dosage takes into account both the dosage of individual ingredients included in the composition and the total amount of the collection. The dosage of individual ingredients included in complex prescriptions is selected taking into

account their importance and the expected pharmacological action of each of them. The total dosage is also important as it determines the therapeutic effect.

EXAMPLES OF SOME OPHICINAL MEDICINAL TEA COLLECTIONS AND THEIR MEDICINAL USES.

1. <u>Sp. vitaminicae №2.</u>

Rosae fructus1

Sorbi aucupariae fructus 1

Vitamin, tonic.

2. <u>Species pectorals №1.</u>

Althaeae radices 2

Tussilaginis farfarae folia 2

Origanis vulgaris herba 1

Expectorant, anti-inflammatory

3. <u>Species pectorals №3.</u>

Salviae officinalis folia 1

Anisi vulgaris fructus 1

Pini gemmae 1

Althaeae radices 2

Glycyrrhizae radices 2

Expectorant, anti-inflammatory in infectious and inflammatory diseases of the upper respiratory tract.

4. <u>Species amara.</u>

Artemisiae absinthii herba 4

Achilliae millifoliae herba 1

A bitterness that increases appetite.

5. Species diureticae №2.

Arctostaphylos uvae-ursi folia 2

Juniperi communis fructus 2

Glycyrrhizae radices 1

Antimicrobial, diuretic, anti-inflammatory, for inflammatory diseases of the urinary tract.

6. Species diaphoreticae №2.

Tussilaginis farfarae folia 2

Origanis vulgaris herba 1

Rubi idaei fructus 2

Antipyretic, diaphoretic, anti-inflammatory in the treatment of colds.

7. Sedativae species №2.

Valerianae officinalis rhizomata cum radicibus 1,5

Leonuri herba 4

Humuli lupuli fructus 2

Menthae piperitae folia 1,5

Glycyrrhizae radices 1

Sedative for increased nervous excitability, insomnia.

8. Brusniverum

Bidentis tripartitae herba 10%,

Rosae fructus 20%,

Hyperici herba 20%,

Vaccinii vitis ideae 50%

Antimicrobial, diuretic.