

Short Communication

## Diagnosis of allergic diseases pets

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### Abstract

The article presents the results of a study of allergic diseases and preventive measures aimed at improving the state of domestic animals (dogs, cats).

**Keywords:** allergies, dogs, cats, erythema, papules, allergen.

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### Introduction

In large metropolitan areas an increase in allergic diseases in domestic animals, and the incidence of allergic rhinitis, conjunctivitis and dermatitis becomes broader in scope. According to the WHO, allergic and immune deficiency come out on top in the environmentally disadvantaged areas, where the entire population sensitized industrial and technological toxicants, a similar situation and the state of health of domestic animals (dogs, cats)

In this context, diagnostic and preventive measures aimed at improving the state of allergic diseases is very important. The preventive and diagnostic activities allergic diseases include:

1. Medical history;
2. Laboratory diagnosis of allergic diseases;
3. Cytological and bacteriological examination of nasal swabs;
4. Eliminating allergens:

-Active ventilation of rooms for animals;  
-Rodent, insect and mikrokleschey;  
-Hypoallergenic diet

Events will allow a diagnosis of allergic disease at an early stage, which contributes to the prevention and effective treatment.

### Methods

Modern methods of diagnosis of allergic diseases (scarification, contact the skin test, intradermal test, determination of total and spetsificheskikh IgE, cytometric allergen stimulates cell test (Tsaski test) test cell mediator release, inhibition test emigration of leukocytes (TTEEL), graduated exercise test to diagnose ) allow detection of a predisposition to allergies, and profilaktirovat effectively treat them. In 1967. Johansson S. i Bennich H. was opened and opisan IgE, which led to the creation of test systems to determine the total and allergen-specific IgE (1). This test does not reduce the significance of scarification and skin tests are used

to determine the cause of significant allergens prior to allergen-specific immunotherapy. In animals after antihistaminic, hormone therapy and allergies dermatozahprovedenie skin tests difficult. Allergic reactions in the mechanism of development of which involved IgE, called "true." Currently on the market there is a large selection of different test systems for the production of allergen-specific definitions and general IgEkolichestvennym or semi-quantitative method based on ELISA or MAST-test. A quantitative method works perfectly well for the determination of total IgE. At the semi-quantitative method allergen-specific IgE measured by class depending on the intensity of the reactions (1klass-low intensity; 2klass-average, 3-high; 4klass-very high). The intensity of the reactions of 1-class is not considered as a positive result. MASTtest according to many researchers, more specific, makes it easier to get the results of the study, the parameters can be determined, even in a single animal, not expecting a set of samples. One example of a quantitative method is a test of the system by "BioKhimMak" when using a calibration curve can be defined quantitative parameters of allergen-specific LgE.

## RESULTS

In our study, the results of carrying out skin tests do not always coincide with the results of the detection of specific IgE, which is associated with more complex mechanisms of formation of skin reactions. The parallel study of the results of skin tests and MAST-test results show a fairly high correlation.

**Table 1:** The correlation of the results of skin tests and MAST-test.

Allergens	Positive results	The positive results of skin tests MAST-test	MAST % positive test to the results of skin tests
Drug	22	20	90.9%
KleschDermatophagoides, Demodex	18	16	88.8%
Tree pollen	16	15	93.7%
Pollen of grasses	13	13	100%
Weed pollen Oct.	11	10	90.9%
Feed July	12	7	58.3%

The table shows that the poor correspondence between the results of skin tests and MAST-test for allergens feed. Special attention should contact skin tests, standardized international group of authors 1967. Contact dermatitis is a hypersensitivity reactions IV-type (delayed type hypersensitivity), and its development through a phase of induction (sensitization) and clinical manifestations. Role of allergens operate low molecular weight proteins, metallic salts, haptens lekarstvaMehanizm clinical allergy is that sensitized cells produce gamma interferon (IFN), which leads to the activation of other inflammatory cytokines keratinotsitovi, vasodilation and development of local inflammation. When the contact of skin samples of chemicals (allergens, nickel sulfate, an antibiotic, formaldehyde, etc.) incorporated in the records of the gel, which are fixed to the back of the animal (pre-cut out a wool). Standard plate soderzhit24 allergen (the company "Pharmacia") of binding dose is measured in micrograms \ cm<sup>2</sup>. There are special strips for contact with liquid allergens dissolved in petriolyate or oil, water, itd For example, if the result of an allergic dermatitis (size of plaque at the site of contact) strips are removed and measured after 48 hours of contact (- there is no reaction, erythema only; + erythema and infiltration, erythema + and bloee3-hpapul, + + +, and-erythema and papule bolee4-x + + + + erythema and more pronounced of papules + + + + + - erythema Bubbles). The test used for diagnosis of dogs and cats. Time read results may vary ot48 hours to 7 days (latter reaction). A true allergic reaction formed 72-96 hours. Despite the wide range of use of skin contact strip in veterinary medicine has not found widespread use in connection with complexity. More suitable for the diagnosis of allergy in animals is the intraoral and Spot tests when pre-treated with 70% alcohol or cereal skin stomach drop of allergen or a piece of gauze treated allergen. An important role in the formation of food allergy igrayutLgG4-AT. The formation of the feed and drug allergy contributes to the presence of diseases of the gastrointestinal tract: gastritis, chronic cholecystitis, chronic ponkreatit, colitis, intestinal dysbiosis. When gluten intolerance, avenin, hordein (celiac disease) involved in the mechanism of development of activated T cells producing IL-2 and other cytokines (gammaIFN, TNF-alpha, IL-1) synthesized spetsificheskoeLgG, MA-AT, which results in increased permeability and damage to the mucosa, and further

развитию атрофии. Определение LgG-AT to feed accomplished by ELISA. Pseudoallergy reactions in clinical symptoms may be similar to the true reaction, but differ in the mechanism of development. Their development is not associated with development of antibodies or the participation of sensitized lymphocytes in the pathogenesis of these reactions emit only two stages pathomimicheskuyui pathophysiological. (2) When pseudoallergic reactions are non-specific release of neurotransmitters: histamine, leukotrienes, prostaglandins. Substances causing vysvobozhdeniyu mediatorov called gistaminoliberatorov: polyamines, substances which are in the NH-groups, or an aliphatic N-bond minute geksadefilamid antibiotics (polymyxin), Calcium ionophore, complement fragments, blood products, waste products worm (2). To diagnose pseudoallergic reaction suggested tsitometricheskii allergen stimulating cell test (Tsaski-test) and cell test release mediatorov DeWeck A.L., Sanz M.L. showed that the activation of basophils with allergen to which the surface is ekspressiya CD63 AG (4).

When (Tsaski test uses a dual-label release leukocytes incubates them with buferomi which boost the allergen, antis fluorescent label for identification of basophils, determine the expression of diabetes, hypertension 63 by flow cytometry. Example, to feed and inhaled allergens, the test is considered positive if at ekspressii CD63 poverhnosti 15% basophils and insect venoms -10% beta-lactam antibiotics and analgesics -5% basophils and stimulation index 2. stimulation index is the ratio % CD63-basophil with an allergen in the sample to the amount of cells in the sample without an allergen.

Tsaski-specific test to determine the specific allergy to inhalant allergens (skin tests can not be performed), pollen, drugs, beta-lactam antibiotics (5), muscle relaxants (3), analgesics (3) allergy to latex, insect bites and stings of Hymenoptera (4) pseudoallergic response to non-steroidal anti-inflammatory drug-induced complement components, plasma and determination of autoantibodies. Tsaski test results correlate well with the results of skin tests.

Vysvobozhdenie mediators of cell test is based on the definitions of skin sulfoleykotrienov (LTC4 LTD4 LTE4), the decay products of arachidonic acid, a transformed 5-Lipoxygenase and glutathione-S - transferase after allergen exposure on the cells. Sulfoleykotrieny can be synthesized by basophils, mast cells not only in allergic reactions, but also in inflammatory processes, drug and feed intolerance, pseudoallergic reactions. LTC4 metaboliziruet synthesized by cells to form LTD4, and LTE4. Sulfoleykotrieny can be defined in various biological fluids by ELISA. The test is considered positive for feed, ingalyatsionnyh allergenov, insect poisons in determining the level of leukotrienes 200 pkg \ ml for drug allergens, as well as chemical additives 40 pkg \ ml; Both tests are highly specific for the diagnosis of food allergy intolerance, inhalant allergies when skin tests can not be used, Hymenoptera sting allergy, drug allergy and intolerance, pseudoallergic different reaction. Application Tsaski test and test cell mediator release in the diagnosis of food allergy and intolerance, pseudoallergic reactions can be used to produce hypoallergenic and an elimination diet. Thus, the application of modern methods of diagnosis reveals the pathogenesis and opportunities for treatment of allergic diseases.

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