Study objectives

Hypersensitivity reactions, especially type 1 are the most potent defense mechanisms of the immune system. Sensitization against allergens leads to increased production of allergen-specific IgE antibodies. The Fc-domain of these antibodies attaches to the alpha chain of the Fce-receptor located on the surface of mast cells (and basophilic granulocytes). The Fab2 domain remains empty. During a repeated exposure, the allergen binds to several IgE antibodies located on mast cells, which leads to the formation of "bridges" between neighboring mast cells with degranulation and release of inflammatory mediators causing symptoms.

The Fce-receptor-test (Allercept®) detects allergen-specific IgE antibodies in serum samples of dogs and cats allowing the development of allergen-specific immunotherapies. The main advantage of this test is its high specificity (92%). It only detects IgE antibodies and does not react with IgGs or other immunoglobulins.

Material and Method

Questionnaires were submitted to the Veterinarians using ASIT in their patients for minimum of 6 months. Questions were asked in regard of signalement, duration of clinical signs, age of start of therapy, and how fast results of success were seen. The overall success rate was calculated.

Results

Questionnaires of 98 cats and 646 dogs were submitted. In 78.3% of the dogs the overall success of the ASIT ranged from clearly better to free of symptoms, and 15% failed to demonstrate any improvement. More than 80% of the patients which had exhibited clinical signs for less than six years before starting an ASIT improved. Only one third of animals under one year of age improved with the ASIT. 33% of dogs over ten years of age at the start of the ASIT showed no improvement.

Approximately 30% of the patients showed noticeable clinical improvement during the first two months of therapy. The ASIT was successful within the first 6 months of therapy in 50% of the patients. 20% of the treated animals needed 10-12 months to show a noticeable success. The number of allergens used in the ASIT (1 to 8 allergens) did not influence the outcome significantly.

Conclusions

The outcome of this therapy is better the shorter the duration of clinical symptoms is prior to hyposensitisation. The best results in dogs and cats were seen in middle aged animals, with a short history of onset. Animals younger than 1 year and older than 10 years show a decreased success rate. When high numbers of allergens (>10) were included in the ASIT, the rate of success was lower. Overall the ASIT is a very successful therapy for allergic dogs and cats.

Bibliography

