The aim of this thesis was to establish the frequency of selected lesions in the nasal cavity in dogs and cats (LPR, polyps and neoplasms). The study was to evaluate the utility of selected indicators of clinical, radiological, macroscopical, histopathological and immunohistochemical (Ki-67 and COX-2) in diagnosis and classification of the above mentioned proliferative changes in the canine and feline nasal mucosa. The development of novel diagnostic techniques for this type of nasal lesions would significantly limit the existing difficulties e.g. due to the idiopathic nature of the disease (LPR), time and labour consumption and economic costs.

The research material consisted of patients admitted to the Endoscopic Laboratory of the Department of Clinical Diagnostics in 2016 - 2020, with the written consent of their owners. Dogs and cats manifesting signs of proliferative lesions in the nasal mucosa with different degrees of disease intensity were enrolled for the experiment as well as healthy dogs and cats constituting a control group. The diagnosis of proliferative lesions of the nasal mucosa, i.e. LPR, polyps or neoplasia, currently is based on the clinical, radiological, endoscopic and histopathological examination and exclusion of other possible causes of nasal chronic disease (foreign bodies, trauma, mycoses), and confirmation of the presence of neoplastic cells (in the case of neoplasms) or infiltrating lymphocytes and plasmocytes (in the case of LPR) in a histopathological examination. The expression of the COX-2 and the Ki-67 was determined in the collected biopsies of the nasal mucosa as a part of immunohistochemical analysis. Clinical, radiological, endoscopic and histopathological examinations included also the evaluation of selected features of nasal proliferative lesions based on scoring systems proposed for the purpose of this study.

The developed scoring systems allowed to rank dogs and cats in terms of the intensity of their lesions. The results of the classification systems turned out to be significant in the dominant majority of compilations of research control groups, confirming the usefulness of the applied classifications in the assessment of the intensity of lesions and their differentation. Immunohistochemical studies showed the expression of COX-2 and Ki-67 in the vast majority of the examined lesions in dogs and cats and also showed a diagnostic and differentiating value for selected nasal proliferative lesions in dogs and cats. The expression of the COX-2 turned out to be statistically significant in dogs between LPR and polyps, and between LPR and neoplasia and the control group, while in cats between LPR and neoplasia and the control group. The expression of Ki-67 turned out to be significant in cats between LPR and polyps and between LPR and

neoplasia, and also between polyps, neoplasia and the control group. In dogs, Ki-67 expression turned out to be statistically significant between neoplasia, LPR, polyps and the control group. The performed statistical analysis also showed the prognostic and predictive value of selected indicators in individual types and degrees of advancement of changes.

The obtained results indicate that the proposed systems of classification may be useful in evaluating the intensity of lesions and their differentiation. Immunohistochemical evaluation of COX-2 i Ki-67 may indicate diagnostic, predictive and prognostic value of selected lesions of the nasal mucosa in dogs and cats.