

RESEARCH ON FREQUENCY AND CHARACTERIZATION OF *STREPTOCOCCUS CANIS* STRAINS ISOLATED FROM DOG AND CAT

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Abstract. The purpose of this paper is to determine the prevalence of *Streptococcus canis* bacteria from pet animals (dogs and cats), clinically healthy and with various opportunistic infections, i.e. isolates and phenotypic characterization. Prevalence among strains of *S. Canis* in pets (dogs and cats) was 16.74%, mainly isolated from the conjunctiva mucosa and genital tract, clinically healthy animals and from the nasal cavity mucosa animals with various oral diseases.

Keywords: *Streptococcus canis*, otitis externa, skin disorders, dog, cat

Introduction In dogs and cats, streptococci of group G isolated in most cases when it comes to strains of streptococci isolated as a commensal bacterium of the skin and mucous membranes (1, 4, 6). Literature of veterinary medicine until now contains numerous alerts of clinical disease or pathological aspect caused by these unusual strains of group G streptococci. The above description of most diseases caused by group G streptococci have attracted interest because the frequency with which these organisms were isolated from clinically healthy animals is high and while lacking in terms of microbiological descriptions of these infections (4).

Aims and objectives. The research objectives are to determine the prevalence of *Streptococcus canis* bacteria from pet animals (dogs and cats), clinically healthy and with various opportunistic infections, i.e. isolates and phenotypic characterization.

Materials and methods. Pathological material samples were collected from 85 dogs and 34 clinically healthy cats from different anatomical areas, i.e. from 56 dogs and 28 cats suffering from various pathological conditions. In this study, included 34 strains of *Streptococcus canis* isolated from dogs and cats. Samples were collected by standard procedures using sterile tubes harvested. Cultivation and identification of bacterial species was performed by standard methodology. For phenotypic typing of streptococci strains was used Pastorex Strep (Bio-Rad Laboratories) kit, allows rapid identification of streptococci, where specific antigens of Lancefield group. Another phenotypic characteristic of *S. canis* strains investigated was the reaction of CAMP. Biochemical evaluation of isolated strains of streptococci was performed with the multitest API 20 STREP system. Evaluation of API 20 STREP system is in accordance with manufacturer recommendations and instructions.

Results and Discussion

A total of 34 strains of *S. canis* were isolated from 203 biological samples collected from 141 dogs and 62 cats in the period March 2012-June 2012. Distribution of *S. canis* strains isolated from samples from different anatomical areas clinically healthy dogs and cats, have mainly isolates from external ear canal (10.71% to 11.11% in dogs and cats), conjunctiva mucosa (8.33% to 18.18% in dogs and cats) respectively vaginal mucosa (18.18% in dogs) and oral cavity (12.5% in dogs).

Our results are consistent with the findings of MOYAERT et al. (6) on the prevalence of *S. canis* in rectal samples. Moreover, our finding regarding the rate of isolation of bacteria from the vagina is less than other reports (3, 6).

In these reports, the prevalence of *S. canis* in vaginal samples was found to be 52%, 40% and 37.5% respectively. Differences in the occurrence of *S. canis* could be due to epidemiological differences between countries.

Frequency of isolation of strains of *S. canis* in dogs and cats with various diseases was as follows: for dogs 18 strains were isolated from 56 samples collected. For cats with various diseases were isolated 5 strains of 28 samples taken.

All beta-haemolytic streptococci belonging serological to G Lancefield group, isolated in this study belong to the species *Streptococcus canis*, as defined by DEVRIESE et al. (2). There were no significant differences in terms of biochemical properties between strains of *S. canis* isolated from clinically healthy animals and that the animals with various infections.

Biochemical test results which are usually variable (including pyrrolidonyl arylamidase, alpha and beta-D-galactosidase, beta-D-glucuronidase, and acidification of lactose and trehalose) were generally within the ranges reported for *S. canis* by other researchers (2, 3, 6).

Another phenotypic characteristic of *S. canis* strains investigated in isolated field that was the reaction has been positive 41.17% of the strains. Our results are lower than observations LÄMMLER et al. (5) and FACKLAM (4), who reported positive reactions to 74.1%, 100% and 95% of strains tested.

CONCLUSIONS

Prevalence among strains of *S. canis* pets (dogs and cats) was 16.74%, mainly isolated from the conjunctiva mucosa and genital tract, clinically healthy animals and from the nasal cavity mucosa animals with various oral diseases. Results of biochemical tests which are usually variable (including pyrrolidonyl arylamidase, alpha and beta-D-galactosidase, beta-D-glucuronidase, and acidification of lactose and trehalose) were generally within the ranges reported for other *S. canis* researchers. There were no significant differences in terms of biochemical properties between strains of *S. canis* isolated from clinically healthy animals and that those animals with various infections.

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