

ISOLATION AND CHARACTERIZATION OF BACTERIA THAT CAUSE TONSILLITIS IN DOG BREEDS ENGLISH BULLDOG AND GERMAN BOXER IN BITOLA REGION

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ABSTRACT

In this study, 12 samples from clinical cases of dogs of breeds English Bulldog and German boxer in Bitola region for the period from January 2016 till April 2018. Totally 12 strains were isolated and identified based on their growth, colony morphology, Gram stain, catalase and oxidase activity using standard protocols. From the results obtained, it can be concluded that the most common bacteria that cause tonsillitis in dogs from the above-mentioned races are *Staphylococcus aureus*, *Streptococcus pyogenes*, *Pasteruella spp*, *Klebsiella spp*

Key words: Dogs, Tonsillitis, Bacterial causes, German Boxer, English Bulldog.

I. Introduction

Tonsils inflammation angina is a very common disease that can affect dogs, especially the younger ones. It is mostly frequent during the autumn/winter season. (Bojkovski et al., 1995, Kuehl et al 2012, Isaacson et al 2012, B. Al-Mufi, 2014).

Often times tonsils inflammation is one of the first symptoms of some kind of a virus infections that can complicate the overall health of the dog (parvovirus, stomach, leptospirosis and rabies) along with change in the color of the saliva to purple red and soft gums. Most frequently affected by this disease are the puppies. Often times it comes repeatedly and can develop into a chronic inflammation that can affect the overall development of the puppies really badly. (Bojkovski et al., 1995, Lääkkö et al., 2004., Alfred et al 2005., Kuehn et al., 2012).

Listed as the main causes of this disease are cold and wet weather, bathing a tired dog with cold water, drinking cold water after a heavy activity, sudden change in weather conditions, mechanical pressure of the collar on the neck, different kind of microorganisms, bacteria and virus infections etc. (Bojkovski et al., 1995, Alanj et al., 1996, Blez et al., 1995, Lääkkö et al., 2004, Kuehn et al., 2012).

Symptoms: Temperature changes. where the body temperature can go up to 41°C, low mood, loss of appetite, choking, the cough resembles cramping, raspy voice, stretched out neck, when put under external source of pressure around the tonsils area, it can cause the dog to cough, swollen and red throat. Often times it can cause vomiting.

Once such symptoms are noted, it is necessary to consult a veterinarian that will determine the cause, as well as prescribe a specific therapy depending on the cause. The owner should make changes in the diet of the dog. The meals should be liquid or slurry and quite caloric at the same time. It is necessary for the dog to rest in a moderately heated and well ventilated room. (Bojkovski et al., 1995, Alanj et al., 1996, Blez et al., 1995, Lääkkö et al., 2004, Alfred et al 2005, Kuehn et al., 2012, McBride et al., 2011, Quinn et al., 2011, Isaacson et al 2012, B. Al-Mufi, 2014).

II. Material and Methods

1. Samples

A totally 12 samples from clinical cases of dogs of breeds English Bulldog and German boxer in Bitola region Table.1

2. Isolation

Totally 12 stains samples were isolated Table.2

3. Characterization and identification

The different pure culture obtained were characterized for their colony morphology, Gram staining, cell morphology, catalase and oxidase reaction using standard protocols.

Table.1 Samples from clinical cases of dogs of breeds English Bulldog and German boxer (breed, ages and their sex).

<i>Sample</i>	<i>Year</i>	<i>Breed</i>	<i>Age(Year)</i>	<i>Sex</i>
1	2016	English bulldog	3,8	Male
2	2016	English bulldog	4,5	Female
3	2016	English bulldog	4	Female
4	2016	German boxer	4,5	Male
5	2016	German boxer	5	Female
6	2016	German boxer	5,5	Male
7	2017	English bulldog	4,7	Male
8	2017	German boxer	3,6	Female
9	2017	English bulldog	4,2	Male
10	2017	German boxer	3,5	Female
11	2018	English bulldog	4	Female
12	2018	German boxer	3,7	Male

Table.2 Strains were isolated and identified

<i>Sample</i>	<i>Strains</i>	<i>Sample</i>	<i>Strains</i>
1	K1	7	K7
2	K2	8	K8
3	K3	9	K9
4	K4	10	K10
5	K5	11	K11
6	K6	12	K12

III. Results and Discussion

Sixteen strains isolated from 12 samples from clinical cases of dogs of breeds English Bulldog and German boxer were characterized. The results of the performed examination are presented in a Table 3

Table 3. Microorganisms isolated from causes tonsillitis in dog

<i>No</i>	<i>Breed</i>	<i>Bacterial causes</i>	<i>No</i>	<i>Breed</i>	<i>Bacterial causes</i>
<i>K1</i>	<i>English bulldog</i>	<i>Staphylococcus aureus</i>	<i>K7</i>	<i>English bulldog</i>	<i>Staphylococcus aureus</i>
<i>K2</i>	<i>English bulldog</i>	<i>Streptococcus pyogenes</i>	<i>K8</i>	<i>German boxer</i>	<i>Streptococcus pyogenes</i>
<i>K3</i>	<i>English bulldog</i>	<i>Streptococcus pyogenes</i>	<i>K9</i>	<i>English bulldog</i>	<i>Staphylococcus aureus</i>
<i>K4</i>	<i>German boxer</i>	<i>Klebsiella spp</i>	<i>K10</i>	<i>German boxer</i>	<i>Pasteurella spp</i>
<i>K5</i>	<i>German boxer</i>	<i>Pasteurella spp</i>	<i>K11</i>	<i>English bulldog</i>	<i>Streptococcus pyogenes</i>
<i>K6</i>	<i>German boxer</i>	<i>Staphylococcus aureus</i>	<i>K12</i>	<i>German boxer</i>	<i>Pasteurella spp</i>

From the results presented in Table 3 it can be concluded that the most commonly isolated bacterial causes of inflammation of the tonsillitis in dogs of the breeds English Bulldog and German Boxer in Bitola region are *Staphylococcus aureus* 41,7 %, *Streptococcus pyogenes* 33,3%, *Pasteurella spp* 16,7%, *Klebsiella spp* 8,3%. These findings agreed with the results of other studies. (Bojkovski et al., 1995, Alanj et al., 1996, Blez et al.,1995, Lääkkö et al., 2004., Alfred et al 2005, Quinn et al., 2011, Kuehn et al.,2012, McBride et al., 2011, Isaacson et al 2012, B. Al-Mufi, 2014)

Recommendations:

- *Planning an annual review of pets with their veterinarian.*
- *Do not share food, liquids or cutlery, drinking pots with other dogs.*
- *Regular cleaning and washing of food and water dishes.*
- *After a walk the dog needs to rest and then give drinking water.*

IV. References

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