

The Number of Dog Patients Infected with *Companion Vector-Borne Diseases (CVBD)* Treated at Klinik Hewan Jogja in 2017

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Keywords: CVBD, dog patient, Klinik Hewan Jogja.

INTRODUCTION

Companion Vector Borne Diseases (CVBD) are diseases transmitted by vectors which can cause fatal outcome for dogs [1]. CVBD frequently attack dogs and are easily transmitted from one dog to other dogs through vectors', such as ticks, mosquitoes, or sand flies, bite [2,3]. Some of the most harmful CVBD that infect dogs via ticks' bite are anaplasmosis, babesiosis, and ehrlichiosis [4]. These diseases cause decreased appetite, lethargy, fever, anemia, jaundice, emaciation, and finally death if not treated properly [5,6].

Blood parasites' infections such as anaplasmosis, babesiosis, and ehrlichiosis are often found in the field. However, due to the limitations of diagnosis confirmation, they often go unnoticed. Despite the considerable number of cases in dogs, the exact incidence rate is not yet known. There is an global call to eradicate CVBD owing to the facts that they are dangerous and may cause economic losses, with the additional risk of being zoonotic [1,3].

Taking the importance of anaplasmosis, babesiosis, and ehrlichiosis in the veterinary science into account, seeing the scant amount of data regarding dog patients followed with the lack of attention on said diseases, it is then deemed necessary to properly diagnose those diseases in dogs brought into the clinic, particularly at Klinik Hewan Jogja. This research aims to identify the number of dog patients treated in Klinik Hewan Jogja infected with those particular sicknesses (CVBD).

The result of this study will provide a summary of CVBD treated at Klinik Hewan Jogja, which in turn, will raise awareness of the diseases and the significance of working together to tackle the issue. Furthermore, the result will also yield information for clients' education to help them prevent the diseases.

MATERIALS AND METHODS

The dog patients in Klinik Hewan Jogja between January and December 2017 are utilized

as the materials for this research. The patients which showed the indications of blood parasites' infection with decreased appetite, lethargy, and found with ticks infestation or a history of it were included in this research.

Other materials include 3 ml injection syringe, alcohol cotton swabs, shaving razor, anaplasmosis and ehrlichiosis detection kit, along with deglass for *Babesiosis* sp. detection, either using a microscope or Polymerase Chain Reaction (PCR).

Patients which fulfilled the research criteria had their blood taken via the cephalic veins with the syringe. The blood then was dripped onto the detection kit according to the factory manual. One band is interpreted as a negative result, and two bands represent a positive result.

The gathered data was presented in the form of tables/figure and percentages of each diseases.

RESULT AND DISCUSSION

The examination result of the dog patients afflicted with CVBD, particularly infected with *Anaplasma* sp., *Babesia* sp., or *Ehrlichia* sp. between January and December 2017 is shown in Table 1 to 3. As shown in Figure 1, patients with anaplasmosis were always present within the year, with the exception during June and July 2017. There were 1 to 2 dogs with anaplasmosis handled each month, which averaged 1 anaplasmosis patient every month.

Figure 2 indicates that babesiosis case persisted during the year. Klinik Hewan Jogja treated 1 to 6 dogs with babesiosis every month, or 2 or 3 patients each month on average. The highest number of patient handled was in June, with 6 patients.

Figure 3 specifies that Klinik Hewan Jogja treated ehrlichiosis patients throughout the year, with 2 to 8 dogs brought to the clinic each month which averaged to 3-4 patients per month. The number peaked to 8 patients in June.

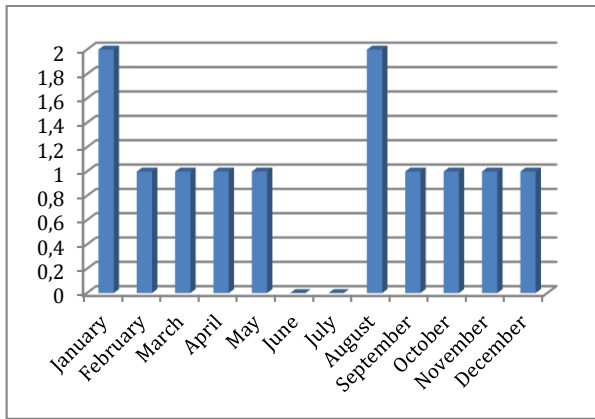


Figure 1. The number of anaplasmosis cases in dogs treated at Klinik Hewan Jogja in 2017

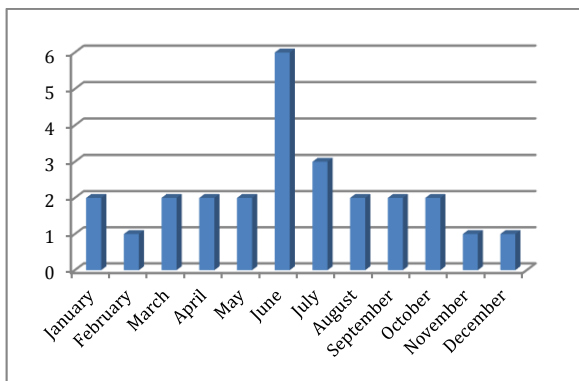


Figure 2. The number of babesiosis cases in dogs treated at Klinik Hewan Jogja in 2017

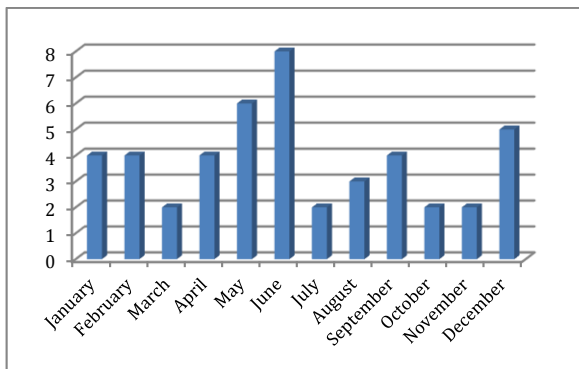


Figure 3. The number of ehrlichiosis cases in dogs treated at Klinik Hewan Jogja in 2017

The total number of dogs afflicted with CVBD (anaplasmosis, babesiosis, and ehrlichiosis) each month is displayed in Figure 4. Figure 4 and 5 show that Klinik Hewan Jogja continued to treated CVBD cases through the year. The number of patients fluctuated, and the number soared in June with 14 patients.

The total number of dogs with CVBD is 84 which comprise 0.84% of all the dog patients treated at Klinik Hewan Jogja. Those patients were brought in various conditions, but many were already in critical condition. The most common reason for that is the ignorance of the owner regarding CVBD, thus causing their late response.

The fact implies that continuous client education is a must. Based on this data, Klinik Hewan Jogja actively provides client education by organizing several activities, including direct counseling for clients who bring their dogs to the clinic, open counseling for the community, seminar or workshop, and lastly through the national radio broadcast (RRI). By educating the clients, we expect to curtail the spread of CVBD and to lower the incidence rate of CVBD in dogs.

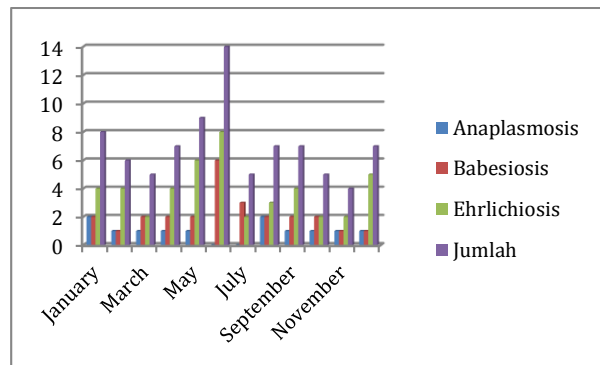


Figure 4. The number of CVBD cases in dogs handled at Klinik Hewan Jogja in 2017

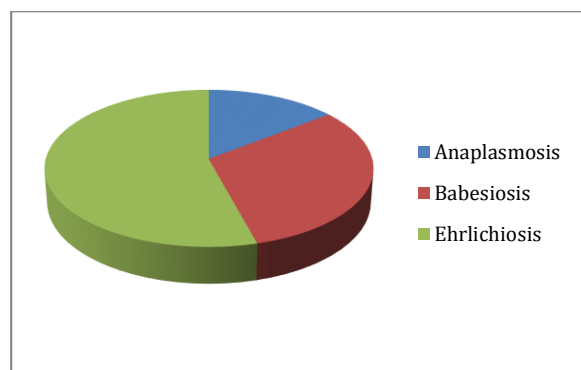


Figure 5. The comparison of dogs afflicted with anaplasmosis, babesiosis, and ehrlichiosis treated at Klinik Hewan Jogja in 2017

The summary of CVBD cases in dog patients at Klinik Hewan Jogja during the year shows that CVBD thrived in the dogs owned by the dog lover community. The result also implies the possibility of transmission risk to other dogs. CVBD is spread via ticks' bite, hence an outbreak in the dog population is highly probable if there are no steps taken to eradicate the ticks. While the treatment of the dogs either afflicted with CVBD or suffering from ticks' infestation is of the utmost importance, it is no less important to eradicate the ticks from the environment. Treatment alone is not enough to solve the problem, constant effort to keep the environment free from the ticks is also needed [3,4,6].

CONCLUSION

We can conclude from the result and the discussion is that the CVBD were ever-present in

the dog patients of Klinik Hewan Jogja throughout the year, from January to December of 2017. Anaplasmosis patients remained throughout the year, except from June to July 2017 with the average of 1 patient per month. Babesiosis patients also persisted throughout 2017, with the average of 2-3 patients each month, which peaked at 6 in June. Ehrlichiosis patients appeared were more prevalent during the year with 3-4 average monthly patients which peaked at 8 in June. CVBD patients in 2017 totaled at 84, which comprise 0.84% of the patients treated at Klinik Hewan Jogja. Continuous clients' education is necessary to lower the incidence rate and prevent the spread of CVBD.

ACKNOWLEDGMENTS

We offer our gratitude to the "Klinik Hewan Jogja" institution along with all of the team members who contributed to the successful treatments of the patients and for the assistance in documenting the data needed to write this article.

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