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A deadly dimorph: what you need to know about Blastomyces spp.

Dunn, Deirdre

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“I think we were meant to sit together; this sounds so much like my dog!” The look in her eyes was of grief and relief all in one. It was a chance encounter at a puppy agility class. While sitting watching our dogs perform, we struck up a conversation. She was a nurse and I a medical laboratory technologist (MLT). I told her about my work in mycology and my desire to make people more aware of the potential for Blastomycosis (Blasto) infection in dogs and how to prevent the deadly disease. She wanted to know more, so I showed her the pamphlet I had just finished. She asked to keep a copy to show her husband and vowed to take her dog to the vet the very next day. It was then I realized how important it was to get the message out.

My portfolio was initially intended to educate the public with the hope it would result in increasing a database to create an epidemiological map of areas where Blasto is most likely to be present in the soil. Survey information gathered of areas that dogs have visited would determine focal areas for future soil testing. By performing a thorough literature review, I extracted the most significant information for the pamphlet. I was able to access the most accurate, factual and up-to-date information.

Through the creation of this pamphlet, I was able to increase my knowledge and to share it with others in an accessible format. My long-term goal is to continue working to help this Blasto-affected community to prevent needless suffering this disease inflicts.

The Literature Review

My work as an MLT is what lead me to the subject of Blastomycosis. I see how many new human cases occur in this endemic area where I live and the continuing increase in infections. I can see how deadly it is if not treated quickly but also how well the treatment works if it is caught in time. Blastomycosis became reportable once again in May 2018, emphasizing to me the importance of this educational endeavour.

My studies throughout this Master’s program in Research Education have taught me how to formulate and critique peer-reviewed articles. I have learned how to gather relevant studies, critique them and organize them in a format that flows, displaying an easy-to-understand and referenced presentation relating to different audiences. It has been a valuable skill that I plan to develop and use, along with tapping into the venue of social media to spread awareness of this disease.

Specifically, the literature review has taught me that more studies on Blastomycosis need to happen. I have also learned through this research how difficult that would be to do. Initially, my goal was the creation of an epidemiological map through a survey of infected dogs. This is still a dream - one that would be challenging to implement as it would involve dogs as a harbinger. This is a conflict as since dogs are animals there would be less funding and support, even though the outcome would benefit humans in providing the necessary knowledge of where the organism is in the environment. Using a pamphlet to supply the public with the understanding of how to protect themselves and their dogs as well as to educate veterinarians and doctors about the known endemic areas is a step in the right direction.
The Pamphlet

At first, the idea of an educational pamphlet seemed like a simple undertaking. However, its development turned out to be much more complicated than anticipated. After the completion of my literature review, I had the task of pulling the most relevant information from the vast volume of data I had gathered. From the time it was discovered to the most recent studies of how to prevent it, I had to choose only the most critical points to use in what seemed such a small piece of paper in comparison.

The Design

I wanted to make the pamphlet easy and fun to read so I felt the most appropriate solution would be a rhyming anecdote. I chose a C-fold pattern (similar to a menu in a restaurant), so the anecdote (with the story in the middle) would pop out when opened. In researching ideas about real stories that I could use, I discovered a Facebook group called “Blastomycosis Awareness Forum – Canine” that iterated a countless number of personal cases of canine Blasto, from quick, painful deaths to long, arduous and rewarding recoveries. Once again, I was faced with the realization of the importance of creating awareness and education of this deadly disease. Coincidentally, I received a call from a friend whose friend’s dog had contracted the disease for a second time. I asked if I could reach out to her and get her story, possibly using her case as a base for my anecdote. Her friend was willing to connect with me and allowed me to use her story in the pamphlet as long as her location was kept confidential. She refrained from giving me her dog’s name but suggested I call him Snoopy. I turned the information into a rhyming poem and added cartoon pictures of Snoopy himself in different poses. I later met with my friend’s friend and was able to show her a draft of my pamphlet her story had inspired. She voiced words of encouragement and emphasized the importance of early diagnosis and the benefits of the education of veterinarians and dog owners alike. Unfortunately, I was not able to use Snoopy’s likeness due to royalty issues. Using another drawing instead, I changed “Snoopy” to “Buddy.”

The Information

While working on the information portion of the pamphlet, I connected with the Thunder Bay District Health Unit (TBDHU) as their interest in educating the community was in line with my portfolio purpose. I was excited when given the opportunity to meet with Lee Sieswerda (the Manager of Environmental Programs) and Robin Cook (the Health Promotion Planner). I had forwarded a draft of my pamphlet for them to look at and review before I was to meet with them in January 2019. They were a fantastic resource of information when it came to the content and design of my pamphlet and gave me more helpful tips, tricks and guidance than what I had expected.

They advised me that the preparation work (90%) in the development of a pamphlet was far more labour intensive than putting together the final product (10%). There were many things for me to consider before the information is on paper: the ultimate purpose of the pamphlet, who the target audience will be, what my desired outcome was and how I was going to follow up. They included guidance on the wording to make it easier to understand by the general public and suggestions on making the cover more attractive to the intended audience - something to ‘pull at their heartstrings’ and encourage someone to pick it up and read it. These suggestions persuaded me to get creative. I added the phrase “for the love of dog” with a heart symbol around the words love and dog, above the original photo of my pooch Phoebe and her question bubble that says, “Have you heard of Blasto?” I felt this was an improvement and would tempt more dog lovers (the intended audience) and draw their attention enough to choose to read it. I had the two relevant Health Units (Northwestern Health Unit and TBDHU
in the endemic areas) as contacts on my pamphlet, but they suggested replacing that reference with advising the public to “visit/contact their local vet if concerned”; the target audience being dog owners concerned about the health of their dogs and not humans infected with the disease. The Health Units would only refer inquiring people to visit their vets if they received calls about dogs. They also suggested ‘focus testing’ (showing a draft or two to a group of people of a similar target audience); to get feedback on its effectiveness, attractiveness and any ideas for improvement. Finally, they contributed to my growing list of potential distribution sites of my final product, including pet stores and grooming centres, the humane society, dog ‘rescue’ shelters and dog classes. I can’t say enough about how much I learned in that one-hour meeting!

As a final personal touch, I included a watermark background of an actual microscopic picture of the yeast form of the fungus.

**The Future**

What the literature review accomplished was an expansion of my knowledge on a topic of which I previously had limited information. I wanted to learn more about this deadly fungus and to expand my experience in the areas of history, signs and symptoms, diagnosis and treatment. Overall it was a successful endeavour.

Creating this pamphlet gave me ideas on how to spread the word. Including the distribution of the pamphlet, I decided to publish my own Facebook page “Blastomycosis – A Fungal Diagnosis” https://www.facebook.com/Blastomycosis-A-Fungal-Diagnosis-216975645860819/. It is intended to be an information site where dog owners can find answers to their questions in an informative and factual format using my newfound knowledge about Blastomycosis and research education. The need for this information became evident as I perused the Facebook group “Blastomycosis Awareness Forum – Canine” that was so helpful and supportive. Many group members were trying to help others but were sometimes unsure of the accuracy of their personal experiences. I felt my page could answer many of their questions and concerns with the most current and up-to-date research. I asked permission of that group's administrators if I could put the group name on the pamphlet and help them to expand their outreach. They encouraged me to continue my work and enthusiastically allowed me to use their group name as a reference in the contact section of the pamphlet.

The contact information section of the pamphlet also includes my Facebook page and Gmail address, along with encouragement to visit the local vet if their dog demonstrates the signs and symptoms of the disease and especially if they have been in a potentially endemic area for infection.

**Conclusion**

Although I am an introvert, my encounter with the woman at the puppy agility class pushed me to spread the word about Blasto. This review gave me the tools I needed to effectively increase awareness among the community and motivated me to share the information by distributing my pamphlet to relevant areas in the neighbourhood. I hope to continue educating others about this deadly fungal disease by maintaining the social media site.

This portfolio accomplished far more than I expected. It has ultimately given me a solid foundation to build on going forward. I feel grateful to be able to help others with my knowledge.