

The importance of diagnostic testing

Abstract

Today antibiotic resistance, flesh-eating bacteria and chronic illnesses plague both the human and animal worlds. This brief communication is intended to highlight the importance of diagnostic medicine in early detection and identification of specific disease pathogens and other etiologies so that targeted treatments can be instilled. Definitively-diagnosed disease-directed therapy leads to more rapid resolve of clinical illness and makes it less likely that chronic ailments will continue to develop.

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Opinion

As a Veterinary Clinical Pathologist and Clinical Practitioner, diagnostic medicine has always been a big part of the plan. The plan to determine the next step in figuring out what the patient is primarily ailing with? What is the patient lacking or what does she/he have too much of? Sometimes the problem may be easy to identify grossly, as is the case with skin abrasions, complete fractures of long bones, and missing body parts (e.g., cropped tails, removed digits, puncture wounds, etc.), cataracts and nuclear sclerosis in older pets. However, sometimes we need the aid of diagnostic tools to better pinpoint where the main problem is. That way focused medicine and client education can be implemented. In other cases where diagnostics are not used, empirical treatment may suffice. However, running the diagnostic tests first may allow us to find out sooner the exact issue so that focused therapy can quickly get the problem resolved. The use of the many diagnostic tools to assure we are treating the patient with the necessary medications to curb their illness is just one part of being a competent veterinarian or human doctor as well. Hematology and clinical chemistry analyzers, the use of the light microscope to evaluate fecal and urinalysis samples and the development of various "SNAP TESTS" to determine if an animal is ailing with common or sometime uncommon diseases is a must.¹ Often individuals may become so familiar with certain disease presentations in patients that the diagnostics may be foregone.

It is engrained in me to ask where is the blood work? In human medicine, the patient is able to communicate vital information to the practitioner to aid in determining what treatments should be implemented.^{2,3} However, in veterinary medicine the client may give us this vital information, but still the diagnostic testing is of the utmost importance to really get to the root of the problem. Oh so often large animal practitioners may not perform blood work and so some of the great cases that our large animals ail with are treated empirically. One may recognize when there is a displaced abomasum, "downer cow" or goat with bloat. Perhaps the clinical signs are classic in a horse with colic. Whatever the illness, be encouraged to find the definitive diagnosis, which is often decided after performing few or many diagnostic tests. Go that extra step and educate the client on the reasons why diagnostic testing is necessary. When a patient with an infection, whether internal or external, is treated empirically with an antibiotic and the wound does not heal, it decreases the ability of culture to find

the culprit. Now we have the development of *Methicillin-Resistant Staphylococcus aureus* (MRSA) and flesh-eating bacteria.⁴⁻⁹ Culture and sensitivity should be performed first and then antibiotics may be implemented until the results of this vital diagnostic tool are received. That way, the antibiotic may be changed if there is an indication on the sensitivity results. Instead of finding out the hard way that the antibiotic is not working and then you try to culture the lesion. Run diagnostics first. Complete blood counts, serum biochemical profiles, urinalysis and fecal examinations are the minimum database that I encourage all to use more frequently.

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Conflict of interest

Author declares that there is no conflict of interest.

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