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Volume 4,
October 2002

a bi-monthly electronic newsletter for the veterinary community

VetCom

Abaxis
3240 Whipple Road
Union City, California 94587

WELCOME!

Welcome to the October 2002 edition of VetCom. Our clinical, *In the Trenches*, discussion this month continues the topic of laboratory monitoring of NSAIDs patients. Additionally our scheduled topic, *Getting the Most from your CBC*, is offered as two-page review. Please feel free to use this as a reference. If there are any specific hematology issues you would like discussed in further detail, kindly drop me a line:
pamconboy@abaxis.com

Every VetScan (chemistry) customer should have received new 5.109 software in early September. If you have not already done so, it is critical that you upgrade your VetScan software. It is a very simple process and will take but a few moments of your time. You will need to have the 5.109 version

In the Trenches

Monitoring NSAID Therapy *Brent Hoff, DVM, DVSc*

Over the past few years, many new non-steroidal anti-inflammatory drugs (NSAIDs) have become available for veterinary use. NSAIDs constitute a wide variety of pharmacologically active agents with diverse chemical structures. Chemically NSAIDs may be classified into two groups: carboxylic acids and enolic acids. Although the NSAIDs are a heterogeneous group of compounds, they share certain therapeutic actions and side effects. As utilization of NSAIDs is on the increase in both human and veterinary medicine alike, toxicoses

installed in order to utilize both the new Comprehensive Diagnostic Rotor with sodium, as well as a number of other existing rotors that have undergone improvements.

Thanks to all of you who took the time to complete the short survey included in the software mailing. This will help fine-tune our new analyte and rotor development. We will keep you updated on our plans and progress.

Guerilla Marketing's Golden Rule #29

Identify or create your competitive advantages, then concentrate your marketing upon them.

Many products and services are so similar that the only difference to potential customers is how they are



resulting from therapeutic use and accidental exposure are also on the increase. NSAIDs vary widely in the magnitude of side effects ranging from Ibuprofen and Naproxen, with a very narrow margin of safety, to the newer NSAIDs, such as carprofen (Rimadyl®), etodolac (EtoGesic®) and meloxicam (Metacam® Mobic®), with wider margins of safety in the dog.

Toxicity of NSAIDs

NSAIDs provide many therapeutic anti-inflammatory, analgesic and antipyretic effects, but also potential deleterious effects. Acute NSAID toxicoses are usually manifested by anorexia, gastrointestinal upsets and hemorrhage, renal failure, hepatic necrosis or blood

marketed. Among the most potent "marketing devices" are competitive advantages. The idea is to identify your marketable competitive advantages, then stress them in all your marketing. The area most fertile for creating a new competitive advantage is service. Competitive advantages mean offering a better value, extra effort or even a "free" offer, but investments in competitive advantages are frequently the wisest investments a business can make. Keep an eye on your competitors, identify what you can do better.

Guerilla Marketing Excellence, Levine, Houghton Mifflin Co

Many VetScan customers capitalize on their laboratory capabilities. With just a few drops of blood they are able to evaluate a complete chemistry profile and CBC while the patient and client are at the clinic. The VetScan system allows them to emphasize the advantage of speed, diagnostic confidence and immediate treatment that other clinics may not be able to offer.

dyscrasias in both dogs and cats. The tendency to induce toxic effects may differ markedly however, not only among the various NSAIDs but also among the species exposed. Some studies have demonstrated that Labrador retrievers are disproportionately represented in cases of NSAID-related complications. It is notable however, that their over-representation may be due to the fact that Labrador retrievers are the

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Number 1 AKC-registered breed and that these dogs are commonly affected with musculo-skeletal disorders indicating NSAID treatment. Over the past year we have documented nineteen (19) dogs with gastrointestinal effects, seven (7) dogs with hepatic effects, seven (7) dogs with blood dyscrasias and six (6) dogs with renal effects in our post mortem caseload. All of these cases were dogs treated with NSAIDs. The mean duration of therapy varied from a few days to several weeks. The cases were from complete autopsy cases, and most were secondary to other problems. We have also seen many of the same NSAID-related problems identified through our clinical pathology caseload, where case following is often difficult.

Clinical symptoms and routine biochemistry screening may identify patients experiencing NSAID-related complications. The effects are readily reversible with discontinuation of therapy. The clinician may opt to trial an alternative

NSAID, or another anti-inflammatory medication for the affected patients.

Gastrointestinal Effects

The most frequently encountered adverse reactions associated with NSAIDs are related to the gastrointestinal tract. These vary from epigastric pain to severe erosive gastritis and ulceration. This effect may be associated with the inhibition of prostaglandin synthesis. It may lead to severe gastric and intestinal ulceration, accompanied by anemia and hypoproteinemia, because of blood loss. These effects are primarily discovered through behavior changes and clinical symptoms.

Renal Effects

Nephropathy is an important toxic effect induced by NSAIDs. The NSAIDs have been known to produce a wide array of renal effects, including acute papillary necrosis, interstitial nephritis and nephritic syndrome. The nephropathy can be prevented

by periodic monitoring of urea (BUN), creatinine and serum proteins.

Hepatic Effects

The liver plays a central role in the metabolism of NSAIDs, and it is therefore not surprising that there has been associated hepatotoxicity. Hepatotoxicosis however, does not appear to be a common problem with presently available NSAIDs. Several drugs, including Naproxen, should not be used for dogs and cats. Liver damage is not a common problem with acute overdosage with NSAIDs, but there are reports of hepatocellular and cholestatic jaundice with phenylbutasone. There are also reports of acute, fulminating hepatic necrosis with dogs treated with therapeutic doses of certain NSAIDs. These animals present with marked increases in ALT and ALP, and jaundice. Labrador retrievers were over-represented in these reports.

Hypersensitivity and Blood Dyscrasias

Various hypersensitivity reactions have been observed

cont'd page 4

The most frequently encountered NSAID-associated side effects are related to the GI tract

Coming Conferences

We'll See You There!

Chicago VMA

Chicago, IL
Oct 9

Wild West Vet Conference

Reno, NV
Oct 9-13

WI VMA

Milwaukee, WI
Oct 11-13

Atlantic Coast Vet Conference

Atlantic City, NJ
Oct 15-17

American College of Veterinary Surgeons

San Diego, CA
Oct 17-19

American Association Lab Animal Science

San Antonio, TX
Oct 27-31

Events of Note

Practitioners Perspectives on Wellness Programs & the Benefits of In-Clinic Diagnostic Testing

Traverse City, MI
(MI VMA)
October 16, 2002

Contact Jeff Davis
for information
800 822-2947, ext. 1494

Medical & Surgical Procedures

Avian/Exotic Pets

Scott Stahl, DVM

Norfolk, VA

November 6, 2002

(Tidewater Vet Academy)

Contact John Nelson

For information
800-822-2947, ext. 1505

Local Abaxis Representatives are available to present a one-hour presentation on the topic of the benefits of in-clinic wellness testing for local veterinary meetings.

The program offers a review of veterinarian approaches to wellness and senior testing, published relevant literature and 1 hour of RACE continuing education credit

**VetScan® News &
Special Offers**

**NOW AVAILABLE:
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with sodium**

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**Abaxis Adds 2 NEW
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RJ Marketing
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800-406-8541

**Great Western Animal
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Albuquerque, NM
505-822-0999

In Your Opinion

Each month we will ask a clinical, or practice management related question of our subscribers.

**Abaxis Contact
Information**

1-800-822-2947

VetCom Issues
*subscribe, unsubscribe
questions, comments*
Pam Conboy, ext. 6604
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**August's Question:
In Your Opinion,**

*Would an automated CBC analyzer,
with 5-part differential be useful to
your practice?*

If so,
a) *Would you still evaluate a
manual smear for abnormal
results?*

Technical Service EXT 2
*technical issues, training
rotor credits, software queries*
Linda Lang, Manager

Customer Service EXT 3
*direct orders, local representative
and VetScan distributor information*
Valerie Campbell, Manager

**VetScan Software Upgrade
Version 5.109**

All VetScan users should have received their 5.109 software upgrade in September. It is important to update your software not only to enable you to utilize our new rotors, but many existing rotor algorithms have also been optimized, requiring 5.109 software.

If you have not done so, be sure to upgrade your instrument and return the old software card. If you have not received your 5.109 software contact us. 5.109 is backwards-compatible (will run ALL VetScan rotors)

**Abaxis Practice Builder
Program**

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b) *Would you be willing to pay a
"premium" (15-20 % increase
in cost) for the capability?*

*Got a Question for the Lab?
Send it in....*

*Email me with your replies and
queries: pamconboy@abaxis.com*

SALES

Eastern Area Sales Director
Marty Mulroy, ext. 1500

Western Area Sales Director
Randy Knick, ext. 1509



**Comprehensive Diagnostic Profile
with sodium
available NOW!**

Authorized VetScan® Distributors

<u>Distributor</u>	<u>Telephone</u>
AVSC-American Veterinary Supply	800-869-2510
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DVM Resources	877-828-1026
Great Western Animal Health Supply	505-822-0999
IVESCO-Iowa Veterinary Supply	800 831-4828
Merritt	800-845-0411
Miller Veterinary Supply	800-880-1920
Nelson	800-843-3322
Penn Vet	800 233-0210
RJ Marketing	800-406-8541
TW Medical	888 787-4483
VMS-Veterinary Medical Supply	800-533-8674
Vetpo	800-253-7280
Western Medical Supply	800-242-4415

with the use of NSAIDs, although the incidence would appear to be low. Blood dyscrasias also have been observed in animals treated with NSAIDs, including phenylbutasone and the newer NSAIDs. These include bleeding and impaired platelet adhesion, thrombocytopenia, hemolytic anemia and aplastic anemia. Establishing baseline CBC and comparing with post-therapeutic changes is an effective method of monitoring for these side effects.

In-house Laboratory Monitoring

The incidence of NSAID-related adverse reactions are indeed very low, and should not be used as evidence to avoid clinically indicated treatment. It is reasonable to obtain hematologic (CBC) and biochemical data to be used as a baseline, prior to initiating therapy. Alanine Aminotransferase (ALT), Alkaline Phosphatase (ALP), blood Urea Nitrogen/ Urea (BUN), Creatinine, Total protein, Albumin and PCV should be included, as a minimum in this initial data as well as periodic monitoring during therapy. The frequency of periodic monitoring should be established based on the individual patient. General health, age, breed, concomitant disease/therapies and clinical indications should all be evaluated to

determine the appropriate testing frequency. We recommend baseline, post-two week and periodic blood tests every 3 to 6 months for patients on long-term NSAID therapy who are not displaying clinical complications. The potential for not only toxicosis, also idiosyncratic hepatotoxicity, dose dependant GI bleeding and renal insufficiency should be adequate evidence for the need for ongoing monitoring. It is our experience that these recommendations are well accepted by clients, reflected in high compliance levels.

For more information on veterinary use of NSAIDs you may visit the pharmaceutical manufacturer's websites.

Pfizer offers particularly useful information:

<http://www.pfizer.com/ah/rimadylvet/images/december00.pdf>

www.pfizer.com



Getting the Most from Your CBC

Fully interpreting a patient's Complete Blood Count and understanding the limitations of that information can be an invaluable diagnostic tool.

As an aide in this interpretive process, we are including with this issue of VetCom a two-page review of routine CBC values, as well as the additional parameters available to you as a VetScan HMT user.

This review will be available as a separate PDF, attached to this email if you receive VetCom electronically, or will be sent as a separate fax if that is your method of receipt.

Other Useful Hematology Texts:

Schalm's Veterinary Hematology, 5th Ed, Jain, LWW, 2000

A Guide to Hematology in Dogs & Cats, Rebar, et al, Teton, 2002

Hematology Techniques & Concepts for Veterinary Technicians, Voight, Iowa State Press, 2000