



A focus on oncology and diagnostic imaging

Welcome to the Autumn edition of the Vets Now Glasgow Newsletter, where we are excited to bring you the latest happenings from our hospital amidst what seemed to be a rather damp and unpredictable summer. As we traded the sun-soaked days for rain-soaked streets, we remained steadfast in our commitment to delivering exceptional care to our clients and partner practices.

In this edition, we're shifting our focus towards two vital departments: diagnostic imaging and oncology. These areas play a crucial role in enhancing our diagnostic capabilities and providing comprehensive treatment options for pets in need.

As we explore the depths of our diagnostic imaging department, you'll gain insights into the cutting-edge technologies we employ to unravel medical mysteries and guide treatment plans.

In the spirit of embracing challenges, our oncology department takes centre stage, demonstrating the dedication of our teams in the battle against cancer. We'll delve into trends that they are seeing, showcasing success stories that underscore our commitment to extending and improving the quality of life for pets fighting this unrelenting disease.

We will also introduce you to Chris Miller, Specialist in Anaesthetics. An integral part of our team, Chris plays a pivotal role in ensuring the safety and comfort of your pets during procedures. His insights into the art and science of anaesthesia provide a behind-the-scenes look at a crucial aspect of veterinary medicine that often goes unnoticed.

We are proud to have launched our ASSIST service to support practices who require additional surgical assistance. This service is available Monday to Friday and so far, the uptake has been fantastic.

Thank you for being a part of the Vets Now Glasgow community. Here's to embracing the unpredictable and making the most of every moment this season.



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Next CPD evening dates for the diary

To find out more and book a place
vets-now.com/professionals-cpd/

Date: Tuesday 24th October

Topic: Liver disease from a surgical perspective

Cost: FREE

Date: Tuesday 28th November

Topic: Chronic enteropathies: what's new in investigation and management?

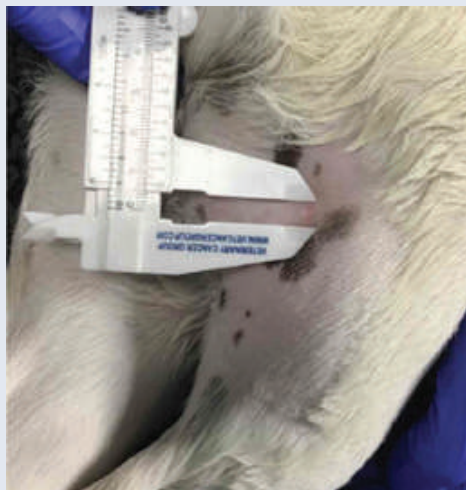
Cost: FREE

These will be held from 19.30-21.30
at the Glynhill hotel, Renfrew

Oncology

This summer our oncology service has been busy treating many mast cell tumours. In the months of July and August the team successfully treated over 20 cases!

Mast cell tumours (MCTs) are one of the most common skin cancers in dogs; although they can also affect other areas of the body, including the lymph nodes, spleen, liver, gastrointestinal tract, and bone marrow. Certain breeds, including Boxers, Boston terriers, Staffordshire bull terriers, Golden retrievers, Labrador retrievers, Pugs, and Shar peis appear to be predisposed to mast cell tumours, but any breed or mixed breed can develop mast cell tumour disease. Some breeds of dog appear to be genetically predisposed to developing MCTs but the cause of this common cancer is not fully understood. MCTs are most common in middle- to older aged dogs but can be found in younger dogs too.



Mass cell tumour mapping

When they occur on the skin, MCTs can vary widely in their appearance. They can be a raised lump or bump on or just under the skin, and may be red, ulcerated, or swollen. A photograph is shown above of one of the mast cells tumours we have treated here at Vets Now.

There are now many treatments available in veterinary oncology for mast cell tumours and all of the available options are carefully discussed with our owners / pet carers during the consultation process. The treatment of choice for almost all mast cell tumours, is local therapy such as surgery with or without radiation therapy, or a new drug called Stelfonta which is used to treat the primary mass.

We are very lucky at the Vets Now hospital to have an incredibly experienced and skilled specialist soft tissue surgery team

that work closely with the oncology team to assess and discuss the approach to mast cell tumours, to work out a combined approach that can give the best possible outcome, that also aligns with what is best for the pet and their carers.

While chemotherapy or other oral “targeted therapies” are used to slow down or prevent the spread of the disease to other sites, chemotherapy is occasionally used post-surgical to manage “dirty margins” of excision.



Daisy

Above is Daisy, an adorable French bulldog, who came to see us in August after her mum (one of our specialist medicine nurse team) noticed a raised skin lump on her upper thigh. The mass was found to be a mast cell tumour and after staging tests to make sure the cancer hadn't spread, she underwent surgery. We were very relieved to be able to report that the mast cell tumour was very low grade and completely removed, so her treatment was a success.



Spleen ultrasound scan



Nico

Also meet Nico, a super cute Maltese terrier, who had a mast cell tumour in a tricky area near his bottom. Like Daisy, after staging investigations to make sure his cancer had not spread, he had a successful surgery to remove his mast cell tumour and is also being carefully monitored by the hospital but is currently doing well!



Diagnostic Imaging

Superficial necrolytic dermatitis/ hepatocutaneous syndrome

Doug is a nine year old, male neutered Cocker Spaniel who was referred to Vets Now Glasgow for an abdominal ultrasound by a dermatology specialist.

Our referral outpatient abdominal ultrasound service allows veterinarians to have quick access to a full abdominal ultrasound, to help progress in the differential diagnosis of their cases when they do not have the time, the equipment or the training/experience to perform the ultrasound in house.

Doug presented a painful dermatitis that had been evolving for one month and not responding to therapeutic trials of antibiotics (clavulanic acid-amoxicilline, clindimycin), lokivetmab (Cytopoint®) and local shampoo treatments. He was referred to a dermatology specialist when the lesions had spread from the paws to the eyes and muzzle as well. He was reluctant to walk or was lame because of the painful lesions and he was lethargic. The only reported blood work was increased liver enzyme activity.

When presented at Dermatology specialists he showed crusted lesions with subjacent erosions/ulcerations in periocular and perioral area and also muzzle. Erythema and moist discharge in perianal area, and marked crusting and fissuring of all paw pads.

The differential diagnosis was: superficial necrolytic dermatitis, pyoderma, pemphigus foliaceus, and less likely, dog food dermatitis.



The abdominal ultrasound

The dermatology specialist got in touch with us for an appointment. We discussed the case and agreed that it was the next best step for Doug. We make sure all our patients are comfortable during the ultrasound with blankets, TLC and minimal restraint so they are in the right position. For referral cases, the ultrasound is performed conscious. Although SND is a very painful condition, Doug did very well and was calm during the procedure. After the ultrasound, he went straight back home with his owner. The results were sent to the referring vet who got back in touch with them to discuss the findings.

Superficial necrolytic dermatitis/hepatocutaneous syndrome

Superficial necrolytic dermatitis is an uncommon skin disease associated with metabolic disorders. Skin lesions include erythema, crusting, exudation, ulceration and alopecia involving footpads, periocular or perioral regions, anal and genital regions, and pressure points on the trunk and limbs. A marked crusting fissuring and ulceration of the footpads is suggestive of superficial necrolytic dermatitis (1).

In dogs, the most common clinical presentation is SND associated with a hepatic disorder and is known as hepatocutaneous syndrome.

It is also reported to be associated with a glucagon-secreting pancreatic

tumour (10-11% of reported cases) and diabetes mellitus (1,2). It is linked with an hypoaminoacidemia and aminoaciduria though the etiopathogenesis of how the amino-acid deficiency could be the cause of the symptoms is still unknown (1,2,3,4).

Common clinicopathologic abnormalities include non regenerative anemia, high hepatic enzyme activities (especially high ALKP activities) (1,3,4).

The hepatic lesions are characterized by « diffuse, severe noninflammatory degenerative vacuolar hepatopathy, leading to parenchymal collapse and formation of proliferative hepatocyte nodules » (5).

On abdominal ultrasound it shows a unique Swiss cheese like or honeycomb ultrasound pattern. This is because of variably sized, hypoechoic regions in the liver, measuring 0.5 to 1.5 cm in diameter and surrounded by highly echogenic borders (6). The liver size is normal to increased (6).

The clinical presentation, abdominal ultrasound, skin and liver biopsies and more recently measuring aminoacidemia and aminoaciduria are the current tools used to diagnose hepatocutaneous syndrome.

The prognosis of this disease is generally regarded as guarded to poor depending on response to treatment but cases of remission have been reported (1,4,7).

Results of the abdominal ultrasound

Description

The liver showed a diffuse enlargement. All lobes were deformed by well-defined hypoechoic homogeneous, round nodules, sometimes coalescent. They were variable in size (0.5 to 4 cm diameter) involving the majority of the liver parenchyma. This gave the liver a characteristic “Swiss cheese” appearance. The remaining parenchyma was mildly heterogeneous, with normal to mildly hyperechoic echogenicity. No vascular changes were noted.

The bladder was only mildly distended therefore the wall appeared mildly thickened, but it was still smooth. A small number of millimetric, gravity dependant structures, creating echo shadowing were noted in the urinary bladder.

The gall bladder, pancreas, spleen, kidneys, adrenal glands, prostate, stomach intestines showed a normal echographic appearance. The lymph nodes were within normal range. There were no peritoneal changes. There was no evidence of pancreatic neoplasia, no lymph node enlargement, no peritoneal effusion.

Interpretation

The severe multifocal hepatic lesion with innumerable hypoechoic round nodules, involving all liver lobes giving a “Swiss-cheese” appearance and a diffusely enlarged liver are very suggestive of a hepatocutaneous syndrome.

The uroliths in bladder are of unknown nature.

Outcome

After the ultrasound, the referring veterinarian, could offer medical management. Sadly, the skin condition worsened, Doug stopped eating, he was in a lot of pain and the owners decided to ask for euthanasia.

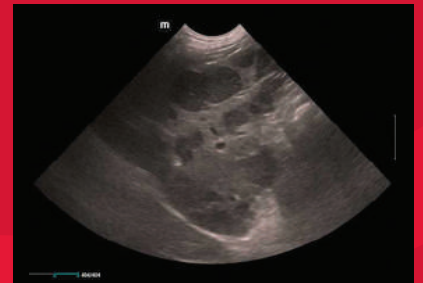
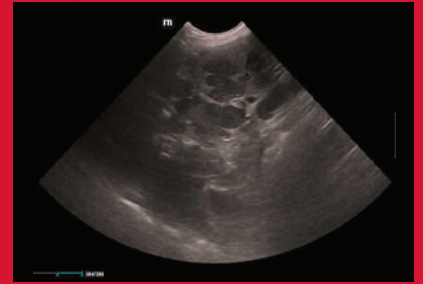
Discussion

The place of diagnostic imaging

This case is sadly classic in the epidemiology (1,3,4), the clinical presentation and unfortunately the outcome of hepatocutaneous syndrome (1,3,4,7). The primary skin lesions and the characteristic ultrasonographic appearance of the liver were diagnostic, but too late for the owners to try a medical management of the condition.

The diagnostic of this condition is traditionally triggered by the skin lesions. They can be associated with lethargy, loss of appetite. There can be increased liver enzyme activity (1,3,4).

These ultrasound images of Doug's liver show the diffuse multi-nodular nature of the changes which are producing a “Swiss cheese” appearance



Ultrasound image of Doug's bladder shows mineralised urolith



Abdominal ultrasound is a key step in the diagnosis thanks to the very specific appearance of the liver lesions (2,6).

Abdominal ultrasound also allows a thorough evaluation of the other abdominal organs.

Although it is not common for severe dermatological conditions to be explored with an abdominal ultrasound, it is a decisive step in working up a case when a hepatocutaneous syndrome is suspected. Abdominal ultrasound is readily available, non invasive, non painful. The limit of this exam for superficial necrolytic dermatitis is the fact that not all pancreatic masses are visible on ultrasound. Indeed there can be technical limitations when gas within the stomach hides a portion of the pancreatic body. There can also be limitations of the imaging technique itself : some masses have the same echographic appearance as normal pancreatic parenchyma. If Dexter's abdominal ultrasound had not shown any liver changes, a triple phase CT scanner could have been offered. During the arterial phase of this CT study, pancreatic neoplasias will be perfused prematurely picking up contrast before the rest of the parenchyma. However, glucagon-secreting pancreatic tumours account for less than 10% of the SND cases.

Plasma and urine amino-acid profiles are reported to be altered, consistently when measured (1,2,3,4,7), allowing a non-invasive diagnostic, with ultrasound allowing to differentiate between hepatic forms and neuro-endocrine neoplasia (2,7).

Treatment and hope for the future

The outcome of this syndrome is generally poor but several cases of resolution of clinical signs have been reported (4,7). The therapeutic aims are to counter the amino-



acid deficiency by intravenous aminoacid infusions, a high protein diet and oral supplementation (1).

Regarding the intravenous administration of amino-acids. Solutions without additional electrolytes are preferred. No ratio of essential versus nonessential amino-acids has proved superior. If the solution is hypertonic, caution must be taken to not induce a hyperosmolar state with sufficient monitoring (1,7).

The high-protein diets can be home-made or industrial, supplemented with protein powder or egg yolks. One study showed a significative life expectancy improvement with a home-cooked diet.

Aminoacid supplements that have been used are zinc methionine, essential fatty acid supplements containing omega-3 fatty-acids, antioxidant nutraceuticals (S-adenosylmethionine choline, silibinin-phosphatidyl-choline). Other treatments are antimicrobial administration, topical

treatment of skin lesions and pain relief (1,4,7).

One study showed significantly improved survival times when the dogs had at least two intravenous aminoacid infusions, home-cooked diets and when dogs were treated with a « 3-pillar » approach (=2 aminoacid infusions, =3 prioritized enteral supplements and home-cooked diets) (7).

Some authors suggest that the dermatological signs are a late stage presentation and that diagnosing the symptom on the basis of the aminoaciduria and hypoaminoacidemia, and on the hepatic signs (increase in ALKP, ultrasonographic findings) may allow a better outcome (3,7). Hopefully, the understanding of the physiopathogenesis will allow an earlier diagnosis and improved management of these cases in the future.

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SPOTLIGHT ON...

Chris Miller

Specialist in Anaesthetics



Can you describe your role as an anaesthetist in an animal hospital? What are your primary responsibilities and tasks?

My role within the hospital is to provide individual anaesthetic and sedation plans for patients requiring imaging, surgery and other investigations. It is my job to discuss the case with the specialist clinician, review the history and blood work, and request any further tests or investigations. Then I will formulate an anaesthetic plan, thinking about any potential complications and how to manage them before anaesthetising the animal. I work very closely with nurses, interns and residents who monitor the animal during the procedure and I often will be supervising multiple cases at the same time. If there is a more complex case, I will be much more directly involved during the procedure to manage any problems should they arise.

My role also covers perioperative care and provision of analgesia in collaboration with the clinicians and ICU and wards nurses. I am also involved with teaching, training and developing the anaesthesia skills of all clinical staff in the hospital to help improve patient care.

What motivated you to pursue a career as an anaesthetist, specifically in the context of veterinary medicine?

Was there a particular experience or inspiration that led you to this path?

After graduation from Vet School, I felt completely overwhelmed in my first job, particularly during surgeries. I found it very challenging to be both responsible for the anaesthesia while trying to focus on the actual surgery. I undertook an RVC online anaesthesia CPD course to improve my knowledge and confidence with dealing with both aspects. After 18 months in first opinion practice, I wanted to experience a different side of veterinary care so pursued an internship. I was amazed by the anaesthesia team and the care they provided (I remember seeing my first nerve block for stifle surgery and was blown away by how effective it was). This inspired me to apply for a residency in anaesthesia.

Could you share some insights into the preparation and monitoring process you follow when administering anaesthesia to animals of various species and sizes?

Preparation is key and a lot of work is done prior to administering any drugs. Discussion between the primary clinician, anaesthesia nurse and support nurse (theatre or discipline specific nurse) takes place. A thorough review of the history and previous investigations is performed. An anaesthesia problem list is then formulated and discussed with all staff involved in the anaesthetic. Finally, all equipment required for anaesthesia is organised and carefully checked.

Monitoring wise all sedated and anaesthetised are closely monitored by a dedicated trained nurse or vet. Every patient will also be monitored by multi-parameter monitors measuring ECG, pulse oximetry, capnography, blood pressure and temperature. More advanced monitoring techniques, such as invasive blood pressure, are also regularly performed.

Anaesthesia comes with inherent risks. How do you manage and mitigate potential complications during and after procedures to ensure the safety of the animals under your care?

We plan, prepare and anticipate for potential problems before they potentially arise. Communication between everyone involved is also vital to ensure everyone is aware of what to do if a complication occurs. With all cases, we perform a safety checklist at various timepoints. One main purpose of this is for the team to pause and verbalise potential complications before continuing with the procedure. I am fortunate to work with an experienced, dedicated team of vets, nurses and ACAs and we all work together with the patient as our primary focus.

Can you discuss your experience working within a veterinary team? How do you collaborate with veterinarians, technicians, and other professionals to provide optimal patient care?

This is one of my favourite parts of the job. I get to spend my day with a variety of different staff from different departments. I get to have complex clinical discussions with other specialists and also more practical patient focused discussion with the nursing team. I really enjoy working closely with all members of the hospital with our primary focus being on the patient's wellbeing and welfare.

In the context of advancements in veterinary medicine, how do you stay updated with the latest anaesthetic techniques, equipment, and safety protocols?

I read widely to keep myself updated with current literature and research. I am also fortunate enough to have a generous CPD budget which enables me to attend conferences and courses.

What advice would you give to aspiring anaesthetists who are considering a career in the field?

My best advice would be to get in contact with a veterinary anaesthetist and ask to see practice with them. Nearly all referral centres will have veterinary anaesthetists now and they are a passionate group of people! They are dedicated to veterinary anaesthesia and often love to share their skills and knowledge with other similarly interested people.

Given the high level of responsibility within your role, how do you unwind outside of work?

I run, a lot! Probably too far but I enjoy being out in the hills and glens of Scotland running. After a couple of years of running shorter distances, I am back training for ultra runs again.

Lastly, in your opinion, what sets Vets Now apart from others in terms of the quality of care and services provided?

I think because Vets Now Glasgow is a true 24-hours hospital, the care provided to the hospitalised patients is second to none. I have also never worked with proper ECC department before, and I have learnt a huge amount from them. Vets Now have a real passion for educating the wider veterinary industry in emergency and critical care through congresses and courses so that also makes it an inspiring place to work.



Assist

Are unexpected emergency cases putting a strain on your practice? Have you found yourself juggling routine appointments while dealing with urgent situations? We hear you, and we're here to help!

Introducing the ASSIST Service: Say goodbye to the hassle of rearranging appointments and working late hours to manage your caseload.

Our ASSIST service is designed to make your life easier.

Hand over your unforeseen emergencies to our dedicated out-of-hours team, allowing you to focus on what you do best providing exceptional care to your patients.

Extended Surgical Capacity:- We understand the challenges that arise when your practice faces unexpected emergency cases. That's why we've expanded our surgical capacity to accommodate practices in need of additional resources during critical moments. Comprehensive Support:

What is ASSIST?

Additional Surgical Support in Sticky Times, a service provided by the out-of-hours team at Vets Now Glasgow. The primary objective is to offer first opinion veterinary practices the assistance they need when encountering unexpected emergency cases that they are unable to manage due to a full schedule. ASSIST will step in and seamlessly transfer these unscheduled cases, ensuring that patients receive the urgent surgical care they require.

What does ASSIST offer?

ASSIST provides an extension of standard surgical services offered in first opinion practices. The services will be resourced with dedicated staffing to allow an enhanced availability. This will facilitate a quick response rate. ASSIST offers two categories of surgical procedure: Simple and Complex.

How to access ASSIST?

ASSIST will be deployed and managed by the lead Out Of Hours Vet. The service will only be accessible via a vet to vet handover before admission. The ASSIST service is available Monday to Friday until 6pm when normal OOH service begins. Our reception team are available now to transfer your call to the ASSIST team. on 0141 328 7513.

Why Choose Vets Now Glasgow?

Reliable emergency support that seamlessly integrates with your practice. Dedicated out-of-hours team to handle emergencies while you continue your daily routine.

ASSIST fees

Simple Procedure: £1200 This category includes straightforward surgical procedures that require minimal time and resources.

Complex Procedure: £2500 This category covers surgeries that involve more intricacies and may require advanced techniques or equipment.

Contact our ASSIST team:

0141 328 7513



Vets Now Glasgow Hospital

We are proud to accept referrals for all of our specialist services:

- Emergency and Critical Care
- Diagnostic Imaging
- Internal Medicine
- Outpatient Ultrasound
- Oncology
- Orthopaedics
- Soft Tissue Surgery



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Or alternatively refer your case online at
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