

Issue 1 – Spring 2024

# Together

with Blaise



## In this issue...

In discussion with  
our cardiology team

Nova's Rare Ear  
Abnormality

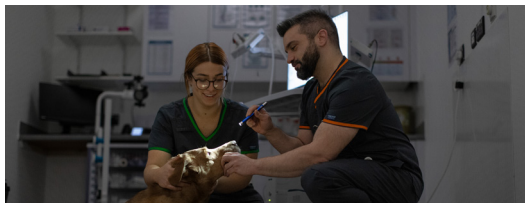
Freyja's Ovarian  
Teratoma

Jen's Tea Time  
Teaser

**blaise**<sup>™</sup> Veterinary  
Referral Hospital  
Birmingham

[blaise-referrals.com](http://blaise-referrals.com)

# our latest news



Several neurology specialists have written a statement containing guidance on the management of seizure emergencies. This is the first time such a statement has been written, which was headed up by Marios Charalambous, Neurologist at Blaise.

Scan to read more



Scan to read published paper

Congratulations to Carlo Anselmi Head of Service - Diagnostic Imaging who has recently had an article published in the ECVI Veterinary Radiology & Ultrasound.



## Exam success

We are incredibly proud to share that Ela Mederska (cardiology), Lara

Baptista (internal medicine) and Margo Ossowska (oncology) have passed their board exams - and are now newly qualified specialists. Congratulations!

Image (left to right); Ela, Lara and Margo



## Thomas, welcome to the team!



Thomas graduated in 2016 from the University of Nottingham; he then went on to spend his first two years in general practice in the West Midlands. From there, Thomas moved to the RSPCA Birmingham Animal Hospital where he spent his time between hospital work, the animal centre and investigating animal welfare offences. In 2020, he started a small animal rotating internship which was 60% OOH/ECC and 40% rotating between the different disciplines. Following his internship, he stayed working full-time OOH. During 2022, Thomas then moved to Cardiff and spent two years working nights at a busy emergency hospital before returning to work within the West Midlands.

Thomas's key interests are in investigations and procedures. He has a keen interest in diagnostic imaging, endoscopy and surgery and has been shadowing specialists when time allows.

Thomas has two young boys, Reggie and Sully. Reggie was born whilst he was halfway through his internship and Sully a year later.

# our brilliant people

From day one, we adopted the 'Hello my name is...' campaign at Blaise. Founded by Dr Kate Granger who was being treated for cancer at the time, she recognised the importance of having healthcare professionals introduce themselves to her while in their care. The campaign places value on compassion and trust and those little things that often go a long way.

We caught up with both Amber and Emily who both introduce themselves and provide insight into their roles, backgrounds and what makes them brilliant.



## **Amber Burkinshaw** RVN **Referrals Administrator**

Hello my name is Amber and my role involves the receipt and processing of routine referrals sent to Blaise by referring

vets. I'm also a consistent point of contact for clients, on-hand to relieve stress and provide a friendly, personable, and efficient service from day one.

From a very young age, I grew up in a house full of animals. After completing my A-Levels, I went on to complete a veterinary nursing degree, and subsequently, a BSc top-up in veterinary nursing science. Following this, I then worked as an RVN at first opinion level. Due to a back injury, I had to take early retirement from clinical nursing and move into a more stationary role – luckily, Blaise had the perfect opening for me.



Gurgi and Henwen

I am a self-certified crazy cat lady and I am owned by two rescue kittens, Gurgi and Henwen.



## **Emily Jukes** **Relationship Manager**

Hello my name is Emily. My role within the senior leadership team consists of many elements but

revolves mainly around developing and maintaining relationships with referring vets, our out of hours partner practices and our clients while also overseeing the operational support team within the hospital.

I began my career as a veterinary care assistant in a primary care practice which led me to helping in all areas of the hospital. I then wanted to pursue a more administrative role within the industry which led me to move into an insurance claims and an accounts associate role.

After a few years, I went on to manage the insurance and accounts department. Sometime afterwards, I then became a project executive which meant looking after hospitals across the UK and managing large scale projects. Throughout my time as project executive, I gained a vast amount of knowledge which I continuously apply to my current role at Blaise.

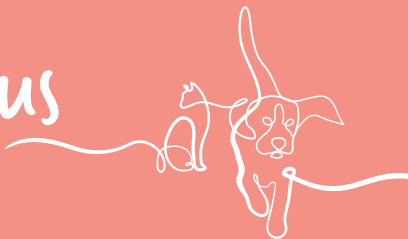
Outside of work I'm kept very busy with my two dogs Bentley and Freddie and travel as often as I can.



Bentley and Freddie

# Marios Charalambous

## contributes to Neurology Module at the BSAVA Congress 2024



Marios Charalambous, neurologist at Blaise and an associate at the University of Veterinary Medicine Hannover in Germany, contributed to a neurology module at the BSAVA Conference 2024 in Manchester on Saturday 23rd March. His involvement was alongside two other neurologists and a rehabilitation veterinary nurse. Marios delivered two lectures and participated in a panel discussion, focusing on the following topics:

### **Lecture 1: The neurological trauma patient: easy cheesy lemon squeezy approach in practice.**

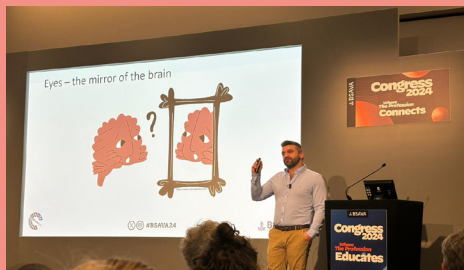
Marios addressed veterinary surgeons on the topic of traumatic brain injury, with the presentation objectives being:

- To establish a diagnostic strategy for cases of head trauma
- To comprehend the significance and limitations of diagnostics in trauma cases
- To advocate for a minimalist approach when appropriate.

### **Lecture 2: The acute seizing patient: how to manage in practice.**

The second lecture provided insights into the management of status epilepticus in dogs and cats, aiming to:

- Clarify the diagnosis and underlying causes of status epilepticus
- Highlight the indications for emergency antiseizure medication and the selection of effective drugs
- Delve into the pharmacology and practical use of emergency anticonvulsant medications in veterinary settings.



### **Panel Discussion: Not to panic: it is a neurological emergency.**

During a panel discussion, Marios engaged in thorough case discussions and addressed neurology-related questions from the audience.

Overall, the module was well attended and received positive feedback, highlighting its success and the value of the content delivered.

Should you wish to refer a patient or seek advice on a particular case, our neurology team provide a comprehensive neurology and neurosurgery service and offer support either via telephone **0121 238 2000** or email **[birmingham.neurology@blaise-referrals.com](mailto:birmingham.neurology@blaise-referrals.com)**.

Scan to find out more





# Nova's rare ear abnormality

Our team saved Nova, the first referral patient at Blaise, from constant infections resulting from a rare congenital ear abnormality.

Our brilliant soft tissue surgery team carried out a surgical procedure after five-month-old Nova's ear canal was found to be abnormally developed.

The condition is called congenital aural atresia.

Nova faced persistent serious problems from the congenital ear abnormality which could include infections and an abscess, seldom reported in veterinary literature.

But surgeon Lara Dempsey, Head of Soft Tissue Surgery, was able to remove the external ear canal, and open up the middle ear.

"Nova was initially taken to the primary vets after the owner noticed a lot of waxy discharge from the puppy's left ear," said Lara Dempsey, a European & RCVS Specialist in Small Animal Surgery.

"When they couldn't see that the ear canal was continuous and there was a blind-

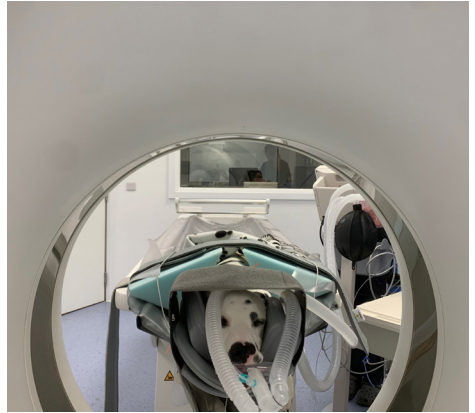
”

Nova’s case was extremely rare. The ear canal was divided into two compartments by a septum and was severely narrowed at the level of this septum.

”

**Lara Dempsey**

Head of Soft Tissue Surgery



ending pouch, they referred her to us for further investigation.”

The state-of-the-art equipment at Blaise includes CT imaging scanners which were used as part of the investigations into Nova’s condition.

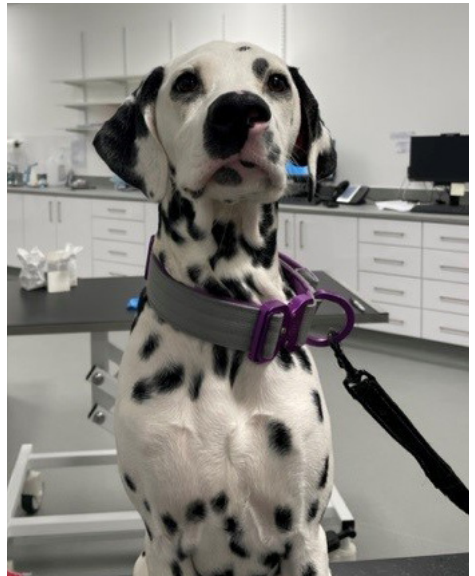
“Nova’s case was extremely rare,” said Lara Dempsey. “The ear canal was divided into two compartments by a septum and was severely narrowed at the level of this septum.

“Nova would have had chronic recurrent infections and could potentially develop para-aural abscessation where an infection ruptures through the ear canal to the surrounding soft tissue.

“We carried out a total ear canal ablation and lateral bulla osteotomy which involved removing the external ear canal and making a window in the bulla.

“The canal and bulla were full of wax and debris which was removed and flushed out.

“The surgery took under two hours, everything went well and fortunately there were no complications. Nova should now have an improved quality of life without the distress of having persistent infections.”





Nova's lovely spotty ear flap is still present, leaving her showing no obvious signs of the extensive surgery, and she has made a full recovery.

Owner Shilene Gulliver, from Dudley in the West Midlands, said, "I work as a dog groomer, so I'm used to cleaning dog's ears.

"When I noticed the cankerous smell and then couldn't see into Nova's ear properly, I knew there was something wrong and got her to the vet the very next day.

"I'm so pleased with what Blaise were able to do for Nova. You wouldn't know she can't hear from that ear and it's a relief that she won't face all those nasty infections."

In the coming months, due to the rarity of Nova's condition, the specialist surgery and imaging teams will be submitting a case study for publication in one of the veterinary journals.



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I'm so pleased with what Blaise were able to do for Nova. You wouldn't know she can't hear from that ear and it's a relief that she won't face all those nasty infections. ||

**Shilene** – Nova's owner



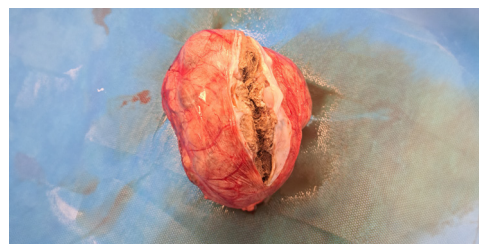
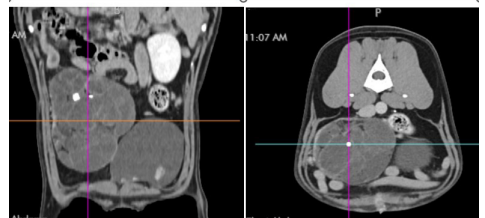
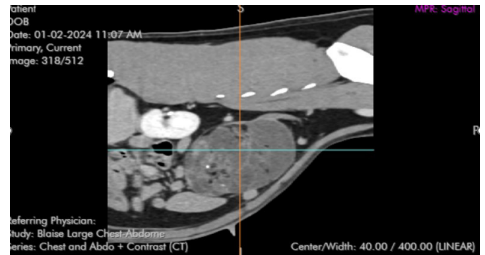
# Freyja's ovarian teratoma

Meet Freyja, a 4-year-old Labrador who came to Blaise for further evaluation of a suspected right ovarian teratoma, which was incidentally found at the time of routine neutering at the referring practice.

Freyja underwent abdominal CT scan, which showed a large heterogenous mass, mainly composed of multiple cysts and some bony structures with no invasion of the surrounding structures.

After imaging, exploratory laparotomy was performed to excise the mass and perform an ovariohysterectomy at the same time. Once the mass was opened, multiple fluid filled cysts were noted along with a large amount of hair and small fragments of bone. Histopathology confirmed the diagnosis of a benign teratoma. Teratomas are rare tumours consisting of different types of tissues such as muscle, hair, bone and teeth, but thankfully surgery is curative in these cases.

Freyja recovered well from her procedure and was discharged the following day.







## An in-discussion with our brilliant cardiology team

The cardiology team at Blaise offer a comprehensive range of cardiac investigations, for symptoms such as heart murmurs, collapse/syncope, exercise intolerance, arrhythmias, and difficulty breathing.

These investigations are performed in patients at all stages of life, to diagnose and treat a wide range of cardiac diseases.

The service extends to providing an interventional cardiology service for the minimally invasive treatment of some congenital heart diseases and abnormally slow heart rates requiring pacemaker implantation. The cardiology service also offers support to other departments within the hospital in the diagnosis and management of heart diseases that can be present alongside a primary systemic disease.

### What made you choose a career in cardiology?

**Xavier**, “I have always been interested in cardiac physiology and congenital heart diseases since I was at university. But I only knew I wanted to become a cardiologist after completing a three-month externship in a referral hospital in the USA. This opportunity allowed me to learn much more about this speciality, and to learn what could be done clinically to help pet dogs and cats.



### **Xavier Navarro-Cubas**

#### **Ldo.Vet. DipECVIM-CA (Cardiology) MRCVS, Head of Service - Cardiology and Interventional Cardiology Service**

Xavier graduated in Valencia (Spain) in 2005. After completing a rotating internship in Barcelona in 2008, he moved to the UK, where he continued his training with a rotating internship at the University of Glasgow and a specific Cardiopulmonary medicine internship at the University of Edinburgh. Xavier completed his residency in Veterinary Cardiology at the University of Liverpool and became a European and RCVS Specialist in Veterinary Cardiology in 2019.

Prior to joining Blaise Veterinary Referral Hospital, Xavier worked as a cardiologist at the University of Liverpool, at the Royal Veterinary College and at a private referral hospital in the South of England. His main clinical interests are the diagnosis and management of congenital heart diseases, with special interest in interventional cardiology, pulmonary hypertension and feline and canine cardiomyopathies.

In his spare time Xavier enjoys spending time with his family and friends, taking trips with his motorbike and is an avid sports fan.



### **Lauren Osborne**

#### **FdSc RVN, Senior Cardiology Nurse**

Lauren graduated from the Royal Veterinary College in 2018 with a FdSc in Veterinary Nursing. She has previously worked as the cardiology nurse in a private referral hospital in Essex for 5 years before moving to Birmingham and joining the Blaise team as the Senior Cardiology Nurse in 2023. Her particular interests in cardiology include feline cardiomyopathies, and interventional cardiology.

In her spare time, Lauren enjoys travelling (especially anywhere with a beach!) and spending time with her friends and family.



### **Ela Mederska**

#### **DVM CertAVP(VC) PGCert VPS AFHEA MRCVS, Veterinary Cardiologist**

Ela graduated in Poland in 2013 and moved to UK to work as a small animal vet, gaining valuable medical and surgical experience. She gained her Certificate in Veterinary Cardiology in 2018. She then moved into a rotating internship and started a residency in veterinary cardiology in 2020 at the University of Liverpool. She finished her residency in November 2023 ready for her move to Blaise.

Her clinical interests are interventional cardiology and management of the heart failure. Ela holds the AFHEA teaching qualification, which she gained in 2021 and is currently the assessor for CertAVP in Cardiology with University of Liverpool.

In her spare time, as well as adopting a deaf one-eyed Cavalier King Charles Spaniel, Ela is passionate about cycling, allowing her to explore the outdoors and clear her mind. She is also currently project managing some home renovations.

**Lauren**, “I joined a referral centre after graduating as a multi-disciplinary nurse and quickly found that cardiology was the service that I wanted to be in. The combination of medical, diagnostic, and interventional nursing skills that I can perform alongside working with a close-knit team means my job is varied and rewarding. I also enjoy the continued interaction with owners to optimise their pet’s treatment.”

**Ela**, “Combining my passion for Cavalier King Charles Spaniels with a heartfelt desire to make a difference in their lives, I found my calling in veterinary cardiology. Witnessing the prevalence of cardiac disease in these beloved companions fuelled my dedication to specialise in this field. Additionally, a pivotal student project ignited my interest in cardiology, aligning perfectly with my lifelong dream of becoming a veterinarian since the age of five.”

### What might a typical day in cardiology look like?

**Xavier**, “We start at 8am, assessing our in-patients and consulting new cases that often need more investigations. In the afternoon, we tend to have re-checks, before looking at discharges from around 4pm to 6pm. So, mostly, patients will come in the morning and be discharged the same day in the afternoon, unless they need intensive treatment. We’ll work from Monday to Friday, with Wednesday usually

being our interventional (minimally-invasive cardiac interventions) day. However, the service is always open for emergencies, and we can count on the support of our Emergency and Critical Care service here if we find ourselves really busy with those cases.”

**Lauren**, “The great thing about working within the cardiology department is that every day is different, and you never know what to expect. A lot of the cases are routine, and the patient is stable, but that can change at any moment. We also have emergencies presenting to the hospital as well as patients that are referred to another service within the hospital but may need to be internally referred to cardiology. Our case load is usually 50/50 between cats and dogs, and typically more adults than kittens and puppies.”

### How many cases might you see in a day?

**Ela**, “Xavier and I will see patients in one-hour appointment slots. It’s not that common for vets and owners to have an hour with a clinician, but we feel it’s important to be able to spend that time. So, we’ll each have three slots for new cases in the morning and another three in the afternoon for re-checks. But we certainly have the capacity to do more, and we’d welcome additional referrals. We are also happy to provide advice via telephone or email.”

### And what is it like to being able to work with the state-of-the-art new facilities at Blaise?

**Xavier** “I am very lucky to work in a hospital with such amazing diagnostic equipment. Having such state-of-the-art equipment helps the efficiency of our day-to-day cardiology case management and significantly improves our diagnostic capabilities. Furthermore, with such equipment we can also plan better for the ideal treatment options for our patients.

”

The great thing about working within the cardiology department is that every day is different, and you never know what to expect.

Lauren –Senior  
Cardiology Nurse

”

**Lauren**, “As previously mentioned, our equipment is amazing from the imaging point of view, but our facilities for hospitalised patients are also incredibly important. From a nursing perspective, the spacious kennels we have at Blaise, allow our patients to be as comfortable as possible, whilst still being monitored effectively. Every aspect of the patients journey throughout the hospital has been considered to minimise stress in patients.”

**Ela**, “Being part of the team at Blaise is truly remarkable. It is one of the largest veterinary hospitals in the UK and has been purposefully built to enhance communication and workflow throughout the hospital.

### **Tell us how much you work with the other teams.**

**Lauren**, “We work closely with the ICU and kennel nurses who look after our patients when they are in the hospital. It’s very much a team effort to ensure the patient receives the best possible care tailored to their individual needs. We also rely on our anaesthesia team to provide support to any of our patients who require sedation or general anaesthetic, especially our interventional cases.

**Xavier**, “The multi-disciplinary approach is one of the great things about working in a hospital such as Blaise. So, it’s not unusual for a dog that presents to a different service like medicine or neurology which have concomitant conditions or additional problems that might be necessary to investigate. For example, an older dog with a neurological disease may also have a chronic heart disease that might require investigations prior to general anaesthesia. Working at Blaise allows us to efficiently investigate each condition to ascertain their safety prior to more invasive investigations and/or treatments. Ultimately, this collaborative approach of each other’s support and expertise benefits our patients and clients”.



### **Where do your cases come from?**

**Lauren**, “We serve the West Midlands and even further afield too. We’ve had cases referred to us from Cheltenham, Gloucester, Liverpool, all over really.”

### **What are the most common cases you see?**

**Ela**, “The most common reason for referral is investigations of heart murmurs and breathing difficulties in older dogs and cats.”

### **And which of the cases you’ve seen so far have stuck in the mind?**

**Xavier**, “We have had an unusual case of a kitten that presented with a severe narrowing in the vessel that brings blood into the right lung (i.e., right pulmonary artery), while the left pulmonary artery was significantly underdeveloped and thinner. This type of condition has been reported very rarely in veterinary literature”.

**Ela**, “One case that stands out vividly for me is that of a young English Bulldog diagnosed with pulmonic stenosis. This condition, if left untreated, could have been deadly. Unfortunately, due to accompanying congenital abnormalities in his case, the standard procedure of balloon valvuloplasty was not feasible. However, at Blaise, we have the capability to offer advanced treatment options such

as pulmonary artery stent placement. This specialised procedure is only available in a select few centres within the UK and provided a lifeline for the young English Bulldog and a chance for improved quality of life.

"**Lauren**, "More recently, we have had a relatively more common condition, a patent ductus arteriosus (PDA), in a 3-month-old puppy. A PDA is a small vessel that communicates between the two largest vessels that leave the heart (the aorta and pulmonary arteries). When left untreated, the presence of this vessel can lead to heart failure and a shortened life expectancy. Thankfully we were able to close this vessel through a minimally invasive procedure that requires placing catheters and an occlusion device through a very small incision in the puppy's groin. He went home following the intervention like nothing had ever happened and is expected to live a normal life now."

### And how rewarding in general is it to be able to make such a difference there?

**Xavier**, "We have the satisfaction of treating animals and seeing them getting better and living longer than may have been expected. But just as satisfying is seeing the effect on the owners. Pets are always important members of families, but in some families, they are absolutely essential."

**Ela**, "It's incredibly rewarding to be able to make a meaningful difference in the lives of our animal companions at Blaise. Having personally experienced the anxiety and concern of a complicated medical procedure with my own beloved dog, I deeply understand the emotional rollercoaster that pet owners go through. Being able to provide advanced treatments and seeing the positive impact it has on both the pets and their families fills me with immense satisfaction and purpose. Every success story reaffirms the importance of our work."

### Finally, what message would you like to get out about the cardiology service at Blaise?

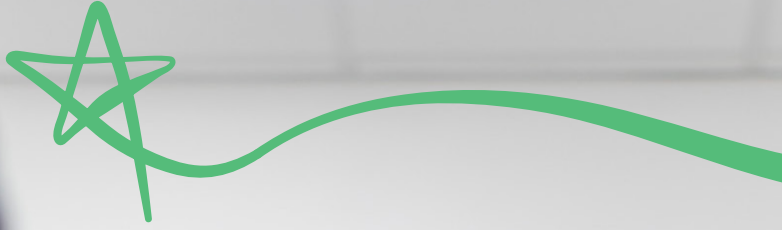
**Lauren**, "We genuinely care very deeply about the animals and the owners. There's nothing we want to do more than make everyone feel comfortable and for them to know we will look after their pets to the very best standards while in our care."

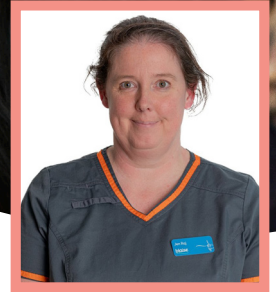
**Ela**, "At Blaise, our cardiology service is more than just cutting-edge treatments; it's about compassion, dedication, and a commitment to excellence. We pride ourselves on being not only highly skilled professionals but also friendly and approachable caregivers who understand the bond between pets and their owners. Our primary focus is on providing the best possible care, ensuring the well-being of both the pets and their families. We recognise that collaboration with primary vets is key to achieving optimal outcomes, and we strive to maintain strong relationships built on trust and mutual respect. When you choose our cardiology service at Blaise, you can rest assured that your patient and their owner(s) will receive the highest level of care in a supportive and compassionate environment."

**Xavier**, "I'd say that the message for both owners and vets is that we have a very experienced and very approachable team. I like to feel I am providing support to colleagues, not just through referrals but also just to give advice on a call or through a second opinion on an ECG for example. We want vets to feel that Ela, Lauren and myself are keen to help and that we are always here for them."

" Our primary focus is on providing the best possible care, ensuring the well-being of both the pets and their families. "

Ela –Veterinary Cardiologist





# Tea Time Teaser

Jen Raj, European Specialist in Veterinary Internal Medicine poses this medicine ‘tea time teaser’.

A 10-year-old female neutered spaniel presents to you with a 5-day history of lethargy. Initially she was quieter on her walks, but now she is reluctant to get up and move. She is eating, but less than usual. No other clinical signs are reported. She has no known access to drugs or toxins, she is not usually a scavenger. She is vaccinated and receives regular anthelmintic treatment.

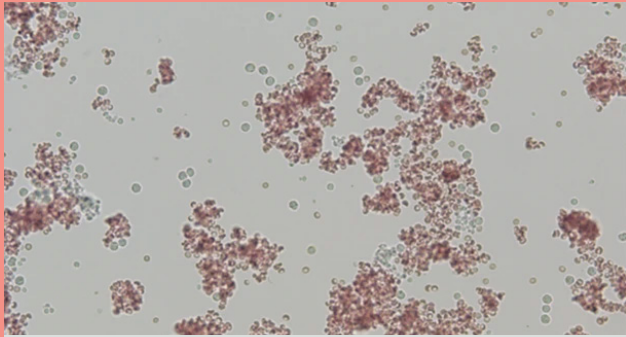
On physical examination she quiet, ambulatory, but very lethargic. Cardiac auscultation reveals a heart rate of 148/min, a grade III/VI left sided systolic murmur, and a regular rhythm. Her pulses are synchronous but markedly hyperdynamic. Her respiratory rate is 48/

min, with a normal effort and auscultation. Her mucus membranes were very pale and possibly slightly icteric. No abnormalities were detected on abdominal palpation or palpation of her peripheral lymph nodes. Her rectal temperature was 39.3C. Orange to light brown faeces were noted on the thermometer slip.

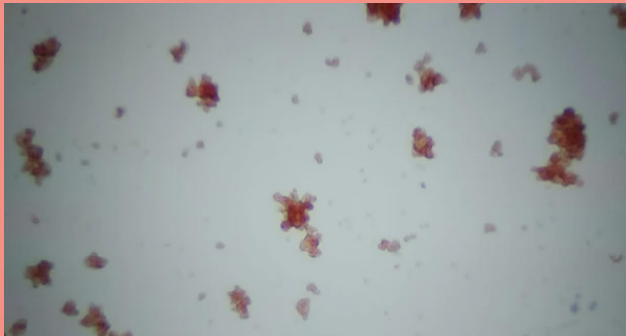
You admit the patient, place an intravenous catheter, and take some blood samples. Her manual packed cell volume (PCV) is 13%, her total solids are 7.4g/dL. You make a blood smear and perform a slide agglutination test whilst a complete blood count and biochemistry are running.

# Questions

- 1 What are your differential diagnoses for anaemia?
- 2 Would you give a blood transfusion to this patient? What product would you select?
- 3 What tests would you like to perform next?
- 4 Can you interpret these slide agglutination tests?



Slide agglutination: one drop of blood in 4 drops of saline



Slide agglutination: one drop of blood in 49 drops of saline

- 5 Can you reach a diagnosis?

Answers on next page



# Tea Time Teaser answers

## 1 What are your differential diagnoses for anaemia?

Anaemia is divided into two major categories: regenerative (loss of blood) and non-regenerative (lack of blood production). It may take up to 5-7 days for dogs to show a regenerative response after blood loss, this group may be called 'pre-regenerative'.

### Differential diagnoses for regenerative anaemia:

**Haemorrhage** - cavitory bleeding (e.g. abdomen, thorax), gastrointestinal (always check faecal colour), renal/urinary loss, respiratory tract (e.g. epistaxis), oral cavity (always check the hard palate in cats to assess for a menrath's ulcer), bleeding disorders (e.g. thrombocytopenia, coagulopathy), which may result in bleeding in multiple sites.

**Haemolysis** - immune mediated destruction (which may or may not be associated with an underlying condition - previously termed primary or secondary IMHA), haemophagocytic neoplasia, infectious disease (Mycoplasma, Babesia), toxins (snake evenomation, bee stings), hypophosphatemia (e.g. during diabetic ketoacidosis treatment).

### Differential diagnoses for non-regenerative anaemia:

**Diseases of the bone marrow** - immune-mediated disease (precursor targeted immune anaemia (PIMA), pure red cell aplasia), neoplastic infiltration, bone marrow necrosis, iron deficiency (secondary to chronic blood loss), infectious disease (e.g. FeLV, FIV, Ehrlichia).

## Diseases which affect the bone marrow

- chronic kidney disease, endocrinopathies (e.g. hypothyroidism), chronic inflammatory/infectious or immune-mediated disease.

## 2 Would you give a blood transfusion to this patient? What product would you select?

There is no specific 'number' (i.e. PCV or HCT) where a blood transfusion should be performed. Patients may cope differentially to their anaemia due to several other factors. For example, patients that lose blood quickly do not have time to adapt to this so will become compromised more quickly when compared to dogs whose blood count drops more slowly. Some patients (e.g. sighthounds) may start with a higher blood count so may be relatively more anaemic at a higher haematocrit when compared to other dogs.

This patient was showing signs of 'transfusion dependency' such as tachycardia, hyperdynamic pulses, tachypnoea and severe weakness, so the decision was taken to give a transfusion.

## 3 What tests would you like to perform next?

A complete blood count, particularly to assess the reticulocyte count, which would be elevated in a regenerative anaemia. Also, to assess for abnormalities of other cell lines (e.g. neutrophils or platelets) which may be seen with some bone marrow diseases.

A slide agglutination is useful supportive evidence for immune mediated haemolytic anaemia. If this is negative, then a Coombs test could be considered.

Biochemistry to assess for hyperbilirubinemia, which may be seen in red blood cell destruction, low protein levels (which may be low in haemorrhage or high in chronic inflammation), to assess for signs of endocrinopathies or renal disease.

Bicavitary imaging to assess for cavitory bleeding should be performed promptly to assess for evidence of cavitory haemorrhage, which we would want to identify quickly.

#### 4 Can you interpret these slide agglutination tests?

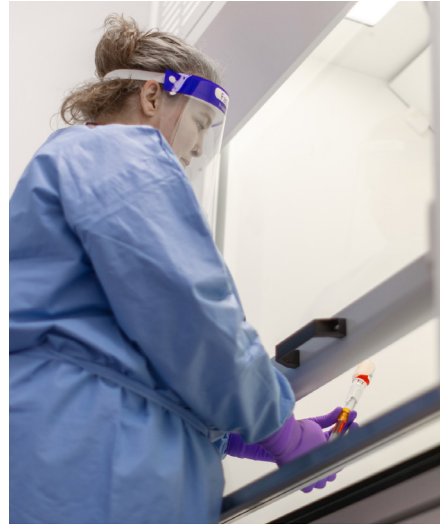
These cells are agglutinating, this is a positive result. The cells appear to be sticking together in a classic 'bunches of grapes' appearance. It is recommended to always interpret a slide agglutination test under the microscope, rather than macroscopically. Diluting blood to 49:1 dilution increases the specificity to diagnose IMHA2, so the author also does this when the 4:1 dilution is positive.

A little later, the results for your patient are returned:

#### Complete Blood count:

- **RBC 2.39 (5.65–8.87 x 10<sup>12</sup>/L)**
- **Haematocrit 0.14 (0.37–0.61 L/L)**
- **Haemoglobin 53 (131–205g/L)**
- MCV 61.6 (61.6–73.5fL)
- MCH 22.2 (21.2–25.9pg)
- MCHC 361 (320–379g/L)
- **Reticulocytes 185.2 (10–110K/uL)**
- WBC 15.2 (5.05–16.76x10<sup>9</sup>/L)
- Neutrophils 11.37 (2.95–1164 x 10<sup>9</sup>/L)
- Platelets 159 (148–484x10<sup>9</sup>/L)

Smear evaluation: Marked spherocytosis observed.



#### Biochemistry:

- **Globulin 46 (25–45g/L)**
- Albumin 29 (22–39g/L)
- Total protein 75 (52–82g/L)
- ALT 32 (10–125 U/L)
- ALP 225 (23–212 U/L)
- **Bilirubin 19 (0–15 Umol/L)**
- Cholesterol 4 (2.84–8.26 mmol/L)
- Glucose 5.39 (3.69–7.95 mmol/L)
- Creatinine 49 (44–159 umol/L)
- Urea 6.2 (2.5–9.6 mmol/L)
- Phosphorous 1.11 (0.81–2.2 mmol/L)
- Calcium 2.36 (1.98–3.00 mmol/L)
- Sodium 155 (144–160 mmol/L)
- Potassium 3.6 (3.5–5.8 mmol/L)
- Chloride 109 (109–122 mmol/L)

#### Point of care abdominal and thoracic ultrasound:

No free fluid found in either cavity.

Continued on next page



## Tea Time Teaser answers continued

### 5 Can you reach a diagnosis?

Are results are consistent with a diagnosis of IMHA. When we follow the useful algorithm (see below) from the consensus guidelines on diagnosis of IMHA<sup>1</sup>, we see we have sufficient signs of immune mediated red cell destruction (spherocytes and a positive slide agglutination test) and signs of haemolysis (hyperbilirubinemia) to reach this diagnosis. A further suspected clue that haemolysis is occurring can be detected on our haematology results – the haemoglobin is relatively higher than the haematocrit suggesting free haemoglobin. A rule of thumb to follow is that the haemoglobin value should be around three times the haematocrit. So, in this case  $14 \times 3 = 42$ , which is lower than the haemoglobin value of 53. **See diagram A on opposite page.**

Taken from 'Garden et al. ACVIM consensus on the diagnosis of immune-mediated haemolytic anaemia in dogs and cats. JVIM 2019'

Further tests were then performed to look for possible associative diseases. These included point of care tests for infectious diseases (Angiostrongylosis, Ehrlichiosis, Anaplasmosis), thoracic radiographs and urinalysis. No abnormalities were detected, so a diagnosis of non-associative IMHA was presumptively made (previously known as primary IMHA).

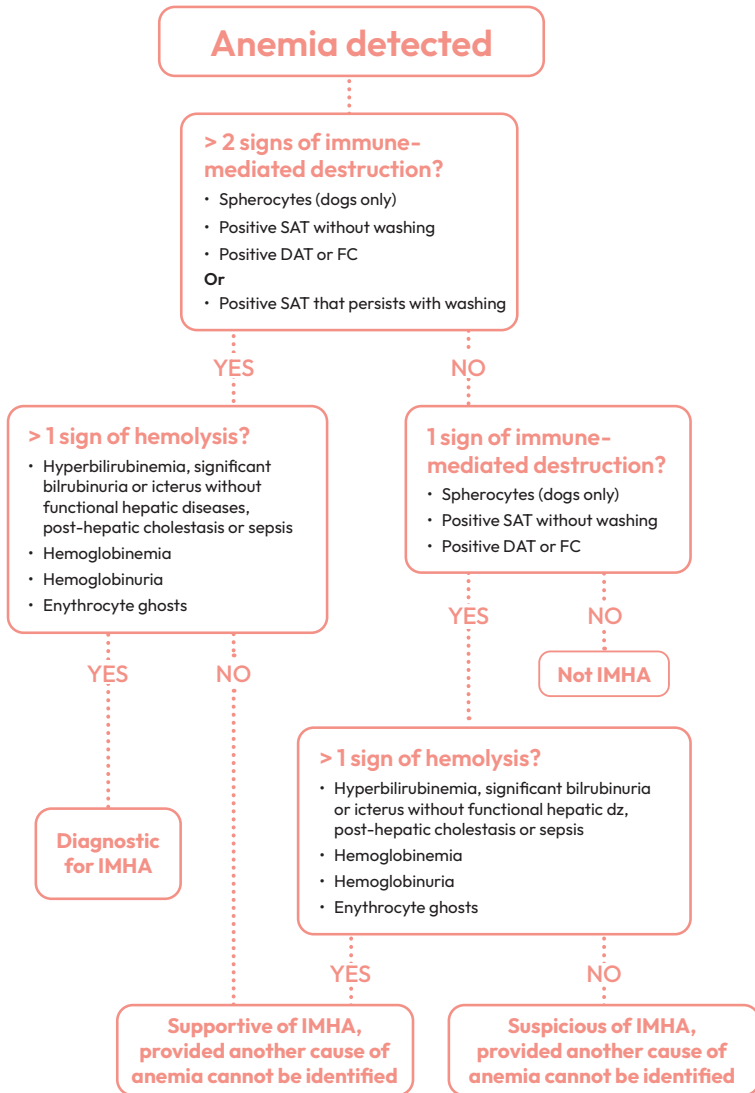
The patient was started on immunosuppressive medication (prednisolone and cyclosporine) and thromboprophylaxis (clopidogrel). She responded well to treatment, her immunosuppressive were weaned then stopped over the following 4 months and no relapse has occurred to date.

For further reading:

**Will you recommend vaccination of this patient in future?**

**Are there any drugs that you would avoid in patients that have previously been diagnosed with immune-mediated disease?**

Diagram A



References:

1. Garden OA, Kidd L, Mexas AM, Chang YM, Jeffery U, Blois SL, Fogle JE, MacNeill AL, Lubas G, Birkenheuer A, Buoncompagni S, Dandrieux JRS, Di Loria A, Fellman CL, Glanemann B, Goggs R, Granick JL, LeVine DN, Sharp CR, Smith-Carr S, Swann JW, Szladovits B. ACVIM consensus statement on the diagnosis of immune-mediated hemolytic anemia in dogs and cats. J Vet Intern Med. 2019 Mar;33(2):313-334. doi: 10.1111/jvim.15441. Epub 2019 Feb 26. PMID: 30806491; PMCID: PMC6430921.
2. Sun PL, Jeffery U. Effect of dilution of canine blood samples on the specificity of saline agglutination tests for immune-mediated hemolysis. J Vet Intern Med. 2020 Nov;34(6):2374-2383. doi: 10.1111/jvim.15945. Epub 2020 Nov 10. PMID: 33169867; PMCID: PMC7694812.

# How to refer to Blaise

We are keen to make the process of referring as easy as possible for you, so we are happy to take referrals in a number of ways.

## Routine referrals

**Online** [www.blaise-referrals.com](http://www.blaise-referrals.com)  
**Email** [hello@blaise-referrals.com](mailto:hello@blaise-referrals.com)  
**Call** 0121 238 2000

## Emergency referrals

Most emergency referrals (same day, evening, weekend) at Blaise are seen by our expert Emergency & Critical Care service.

**If you need us urgently then please call 0121 238 2000 and speak to one of our ECC clinicians**

## Advice

We are always happy to offer advice on cases that cannot be referred or in advance of referral. You can contact us on the details above or contact our discipline teams directly.

**Medicine** [birmingham.medicine@blaise-referrals.com](mailto:birmingham.medicine@blaise-referrals.com)

**Soft Tissue Surgery** [birmingham.softtissue@blaise-referrals.com](mailto:birmingham.softtissue@blaise-referrals.com)

**Orthopaedic Surgery** [birmingham.ortho@blaise-referrals.com](mailto:birmingham.ortho@blaise-referrals.com)

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**Cardiology** [birmingham.cardiology@blaise-referrals.com](mailto:birmingham.cardiology@blaise-referrals.com)

**Neurology** [birmingham.neurology@blaise-referrals.com](mailto:birmingham.neurology@blaise-referrals.com)

**ECC** [birmingham.ecc@blaise-referrals.com](mailto:birmingham.ecc@blaise-referrals.com)

Please note that discipline mailboxes are generally monitored Monday to Friday during office hours so emails outside that time may not have an immediate response. Urgent queries are always best sent to [hello@blaise-referrals.com](mailto:hello@blaise-referrals.com) and accompanied by a telephone call.

## Referring a patient

You can refer a patient via telephone, email, or using our online referral form. Once you have made a referral, we take care of the rest while keeping you fully informed throughout the whole referral journey – it's that simple!



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