
# Interactive Case Study

## Case Presentation

**Name:** Barney
**Species:** Canine
**Breed:** Cocker Spaniel
**Age:** 9y
**Neutering Status:** MN

## Relevant History

- 1 week history of inappetence
- Episode of collapse -> external bloods and antiemetic at RVS
- Progressed to anorexia and adipsia, over next 2 days, syringed water/food at home
- Lethargic and unsettled -> represented to RVS
- Pale MM on presentation
- Referred for investigations into anaemia
- Chronic history of liver disease on UDCA (destolit) and SAMe (denamarin)
- Chronic history of skin allergies, on purina HA diet and Omega 3/6/9
- Up to date with vaccines and parasite preventatives
- No access to toxins, no travel and no raw diet

## Relevant Behavioural and Environmental/Lifestyle Factors

- Been with family since a puppy
- Sole dog in household
- Nervous/unpredictable nature but generally a sweet boy

## Examination Findings

- QAR
- Respiratory rate 40 breaths/minute with normal effort
- Heart rate 144 beats/minute with low-grade murmur
- Pulses synchronous but bounding
- MMs grey and tacky
- CRT 2s
- BP 135/101 (107)
- SpO2 93%
- Uncomfortable on abdominal palpation
- Enlarged prescapular LN
- Temperature 39.4°C
- Weight 13.3kg
- BCS 5/9
- STT 23mm bilaterally (normal = >10-15)

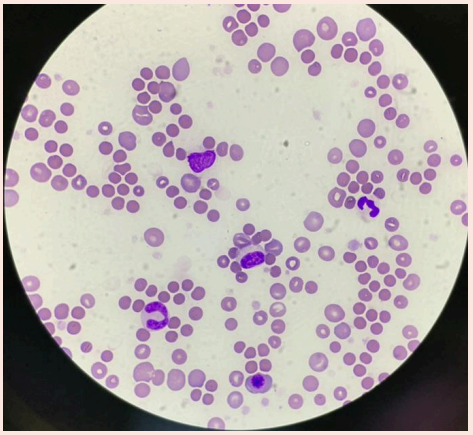
**Red Flags: cardiovascularly unstable with suspected flow murmur due to anaemia, evidence of hypovolaemia and hypoxaemia, abdominal discomfort**

## Relevant Diagnostic Results

**POCUS:**
No free fluid, no pericardial effusion, no evidence of lung changes

**Haematology:**

- PCV 12%
- Blood type DEA1 positive
- In-saline agglutination test positive
- Coombs positive
- Evidence of regeneration on smear (spherocytes, ghost cells, regeneration)
- Normal platelets

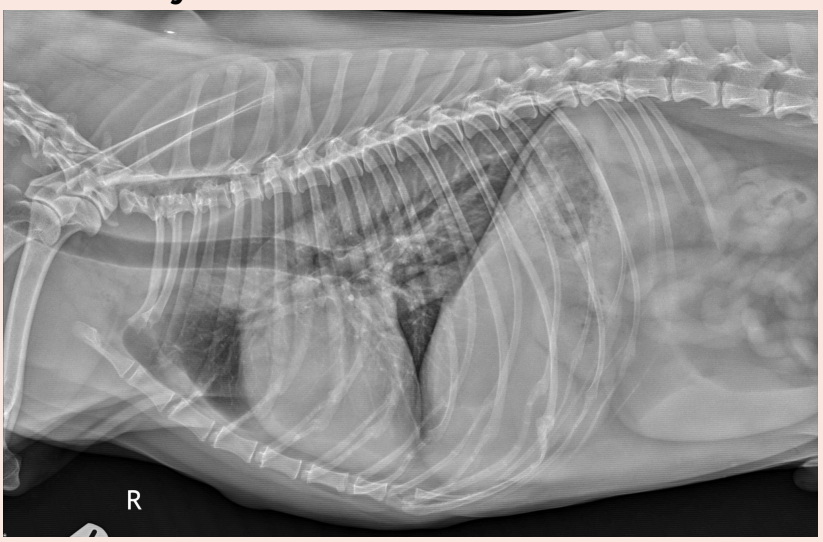


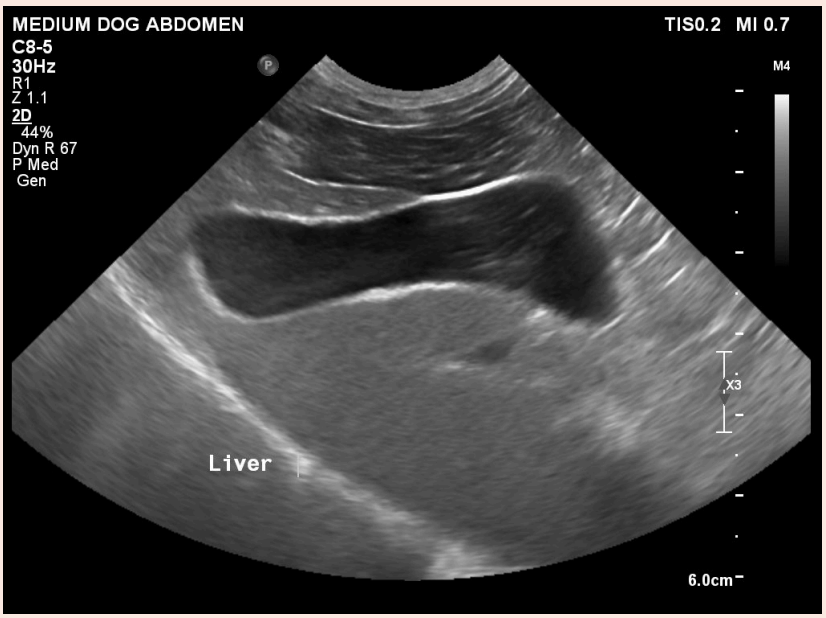
**Biochemistry:**

- **Lactate HIGH 2.6mmol/L** (normal = <2)
- **Crea HIGH 131umol/L** (normal = 35-124)
- **ALP HIGH 1599u/L** (normal = 12-83)
- **Bile Acids HIGH 280umol/L** (normal = <15)
- **Total Bilirubin HIGH 35umol/L** (normal = 0-16)
- **Potassium LOW 3.5mmol/L** (normal = 3.6-5.6)

**Other:**

- **4Dx** negative
- **Abdo US** revealed diffuse liver changes and splenic changes likely benign/due to anaemia, mild pancreatic changes (fatty infiltration vs pancreatitis)
- **Chest X-rays** were WNL




- **Liver and spleen FNAs** were normal
- **Urine analysis:** culture positive, otherwise normal

## Current Treatment

- Initial crystalloid bolus: LRS 2 x 10ml/kg over 10 minutes
- Packed RBC transfusion: 1/2 unit (approx 250ml) administered over 4.5 hours
- Maropitant 1mg/kg IV SID
- Dexamethasone 0.3mg/kg IV SID
- Clopidogrel 18.75mg PO SID (triple dose given on day 1)
- Trazodone 3mg/kg PO TID
- Buprenorphine 0.01mg/kg IV TID
- IVFT with LRS & 28mmol/L potassium chloride 2ml/kg/hour
- **Later:** moved from IV dex to oral prednisolone + azathioprine (second immunosuppressant)

## How is this patient *feeling* right now?

- **Anaemic** - lethargy, reduced O2 delivery, weak
- **Anorexic** - hypokalaemia, weakness, dehydration
- **Abdominal pain/discomfort** - possible degree of pancreatitis on US
- **Nervous**/anxious at vets
- Potential for **increased effect of some medications** due to liver disease

## Nursing Care Considerations

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| **Nutrition** | • How would you approach Barney's nutrition?<br>• What type of tube would you place?<br>• What % of his RER would you start?<br>• What would you feed?<br>• How else would you support his nutrition? |
| **Fluid Balance** | • How would you administer Barney's transfusion?<br>• How often would you monitor him and what would you monitor?<br>• What would you look out for?<br>• How would you assess his hydration status?<br>• How would you monitor his perfusion status going forwards? |
| **Electrolytes**<br><br>**Acid Base** | • How often would you check Barney's electrolytes?<br>• What would you do with his potassium supplementation? |

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| **Nausea**<br><br>**Vomiting**<br><br>**Regurgitation**<br><br>**GI Motility** | • What would you look out for in Barney's case?<br>• How long would we continue his maropitant?<br>• What GI issues could his treatment cause?<br>• How could we check his motility/regurgitation risk? |
| **Pain** | • How would you assess pain in Barney's case?<br>• How could we manage this considering his transfusions, immunosuppressive treatment and liver disease? |
| **Eliminations** | • What issues could we see with Barney's urination?<br>  ○ (Think volume AND appearance)<br>• What issues could we see with Barney's defecation?<br>  ○ (Think consistency AND appearance) |
| **Respiration** | • How would you support Barney's oxygenation?<br>• What would we need to think about during oxygen therapy?<br>• When would you discontinue this?<br>• What other issues could his IMHA cause with his breathing?<br>  ○ (Hint: why is he on clopidogrel?) |
| **Thermoregulation** | • Is Barney pyrexic or hyperthermic right now?<br>• Do we need to cool him?<br>• How could we manage his temperature?<br>• When would you intervene? |
| **Mobility** | • What impact will Barney's hypoxaemia, anaemia and hypokalaemia have?<br>• How can we support this? |
| **Sleep**<br>**Rest** | • How can we balance Barney's transfusion administration and intensive monitoring with the need for sleep and rest? |

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| **Behavioural Considerations** | • How can we manage Barney's anxiety in the hospital? What impact will this have on his clinical signs? |
| **Monitoring** | • How will we monitor Barney? Think about:<br>  ○ Vital signs<br>  ○ Signs of transfusion reaction<br>  ○ Evidence of haemolysis<br>  ○ Complications with thromboembolism<br>  ○ Pain<br>  ○ Electrolytes, PCV and TS<br>  ○ General nursing considerations |
| **Indwelling Device Management** | • How will we manage Barney's IV access?<br>• How will we manage his feeding tube? |
| **Infection Control** | • What infection control implications does Barney's disease and his treatment (especially his azathioprine) come with? |
| **Outpatient Care** | • What do Barney's family need to know when he goes home? Think about:<br>  ○ His disease<br>  ○ His treatment<br>  ○ Signs of at-home deterioration<br>  ○ When to come back |

## Outcome

Barney recovered well from his illness and was discharged after 4 days of hospitalisation on prednisolone, clopidogrel and azathioprine. His prednisolone dose was tapered due to severe PUPD and worsened ALP/ALT. His PCV remains in the 30s currently.