

## Some case histories with autopsy and test results

### Tussock

- Came into care 30/1/14 – mother killed by dogs
- Health excellent. Solid poos right through care
- Started to go to nursery yard in days and back to aviary pen at night. Only doing brief runs around yard when we were there, then back to pouch. No evident sign of ticks.
- He had been sharing pouches with two other wallabies the same size as him.
- 31/3/14 – This day we hadn't taken them to yard. At 11am feed after drinking Tussock lay on ground rather than going back to pouch. Assumed just taking in the sun. Looked well and relaxed. At 4pm feed, drank bottle then suddenly went down hill fast. started fitting/convulsing. Heart racing. Gave .3 Pamlin and subcut fluids multiple times through night. Follow up pamlin next morning as seemed distressed. Shaking, eyes rolling or closed, peti-mals and ceasures. Gave 0.56 Bactrum. Not much to lose as looked like going to die.
- Pouch full of pinhead ticks. They seemed to all drop off him after the Pamlin injection!
- Next day seemed a bit better. Offered milk at 9am - seemed ravenous. Has not lost appetite and is keen to drink, but sometimes gets breathless etc from drinking. Still shaking, peti-mals...
- As of 2/4/14 still alive but not at all well.
- At first we assumed he had been squashed in pouch with others, overheated or panicked. HOWEVER no real evidence supporting this. Also VERY coincidental that he had the pinhead ticks in large quantities – other two wallabies don't seem to have them.
- Have now put a drop of Frontline on him and the other two that had been down the yard.

3/4/14 - Took to Uralba St Vet - Nick ran tests.

- PCV 30% [Ref 40-56%]
- Total Protein 40g/L [Ref 62 +/- 12]
- Glucose 5-8 mm/L [Ref 5.9 +/- 2.2]

Conversations with Andrew from Currumbin also

### Mouse

- Came into care 14/11/13, 631g
- Transferred to us 14/1/13 with Aura
- When Jed got sick (see above) he did show some signs of being a bit unwell. When we Frontlined and got rid of ticks he seemed much better.
- Had been very well since; solid poos, happy, drinking well, didn't like being handled much (dehumanising)
- As of 23/3/14 weighed 3225
- 2<sup>nd</sup> April - Drank morning bottle fine. No sign of illness
- Went to give evening bottle at 5pm. Lying on ground, pretty much unconscious. Picked up and some movement. Heart racing. Rushed to house to give Pamlin. Fitted and died in our arms.
- Pouch in yard full of pin-head ticks. [see container provided]
- Put in fridge while still warm.

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### Autopsy results

Reported via phone conversation with Andrew (who was incredibly helpful). Mouse's autopsy didn't show anything abnormal! He looked like a perfectly healthy little wallaby....

- "There was no evidence of babesiosis on liver slides or blood smears" – he thinks this pretty much rules it out, although it doesn't rule out other things that may be spread by ticks etc.

- He really doesn't think the ticks themselves (I sent a container up) would have had anything to do with it... although they may carry something he can't pick up.
- He reinforced that the Frontline was OK to have used. Won't be a reaction to it.
- Slight staining in urine but definitely didn't die from myopathy – level is more consistent with the response to the final spasms when he died.
- He did say that there were other tests that they could send away to have done (cost about \$300). From memory the tests were about toxicity, but since there was no sign of it being related to a toxin it was not decided that we would do this at the time.
- He has kept the slides etc so if we need to refer back to them or do comparisons they will be available.

Basically he thinks the best we can now do is do more tests on Tussock... or any others that come down with symptoms

## UPDATED NOTES

### TUSSOCK

- As of 6th April started looking much brighter, stopped convulsing. Eager and bright eyed in pouch. Could kick legs. However, when placed on ground, no control over back legs.
- Spent 24-36 hrs supporting him as he tried to stand. Kept falling over.
- As of evening of 7th started running up and down the aviary. Like his brain's control over legs was "switched back on".
- 20th April - Doing amazingly well. Putting on heaps of weight. - 455g in 12 days! Wouldn't know he had been so sick.
- No sign of illness since.

### COCO – sickness and autopsy

- Started getting sick on 16th - hunched up, lathargic, twitching.
- Took to Currumbin on 17th. See extensive report. No evident cause.
- Brought back but died shortly after we got home.
- Body taken back to Currumbin on 18th for autopsy.
- Autopsy discussed with Andrew on 19<sup>th</sup> – no indication of problems.
- Samples will be sent to Australian Wildlife Registry for detailed pathology.

We have 5 wallabies down the yard at present, including Tussock. All are well. No sign of ticks or any illness.

### Autopsy results from Currumbin

Clinical notes; case 30597

Quiet, moderate condition, well hydrated. Has been drinking well but recently became twitchy and agitated.

Mm pink, oral cavity clear, ophthalmic exam NAD except absence of PLR and bilateral dilation.

No evidence of external trauma, auscultation of lungs and abdomen NAD.

Bloods: PCV 44, TP 64, smear shows mild lymphocytosis

Ultrasound: NAD

Rads - NAD

Urinalysis: dipstick NAD, USG 1.015, sediment unremarkable

Further urinalysis and faecal to follow

Assess: Increased nervous excitability despite quiet demeanour and very straight posture during exam - no history of toxin exposure, unable to rule out meningitis etc.

Plan: Symptomatic therapy (ongoing oral fluids), diazepam when agitated, clindamycin and metacam PO

18.4.14 DOA - carer has discussed case with AH

PM – unremarkable, pursue histo via Phillip Ladds

Hi Renata,

Good timing, Phil returned the histo report last night, see below. The joeys appear to have suffered from acute inflammation associated with the blood vessels in the brain which our pathologist has suggested may be due to a virus or parasite. As viruses are usually transmitted from animal to animal, but your cases have in some cases been unrelated apart from the common release yard, it would seem parasite-associated disease (whether direct or by transmitting a virus) is the more likely.

Blood-borne parasite infection has been documented in eastern greys on the north coast of NSW since 1994, although the signs in your joeys appears different, with the absence of anaemia and dominance of neurologic signs. We didn't see parasite on blood smears in the your cases. The next step is to compare the current findings with others from the area which we can do through the wildlife health network.

Stay tuned,

Andrew

**Case 30597, red-necked wallaby.** Microscopically, no significant changes were seen in sections of lung, heart, spleen, liver, or kidney. In brain there was marked localisation of mononuclear cells – mostly lymphocytes within congested capillaries -and within or around capillary walls. Throughout the section of brain occasional minute basophilic “dots” were within macrophages or in capillary lumens.

Dx: possible early , non-suppurative cerebral vasculitis.

Comment: The vascular changes in brain are indicative of an early cell-mediated response to infection – possibly viral or haemoprotozoal. The mild lymphocytosis observed clinically is perhaps consistent with brain changes.

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**Conversation with Andrew 3<sup>rd</sup> June, 2014**

Lots of issues may display the same symptoms

There have been 14 groups/clusters of macropods with neurological issues in this area (I think north of Sydney or Nth of Newcastle)... they go back quite a long time. Such issues arise from time to time, go on the register, and then the issue disappears or isn't reported again. These 14 are still "open" cases.

- Andrew thought it was a good idea to email other macropod carers to encourage them to report similar issues to their vet.