

Supplemental Table 3: Progression of Orangutan Respiratory Disease Syndrome, treatment timeline, and surgical intervention dates in Case 3 from 2014 to 2022.

New Episode ^a	Date	Symptom Description	Antibiotic treatment ^b	Surgery
1	5-Dec-14	Had been reported of occasionally showing nasal discharge and audible breathing in May and November-December 2014. In December, the nasal discharge was mucopurulent and tinged with blood. The animal was diagnosed with sinusitis.	Cefadroxil 500mg (Bernofarm Pharmaceutical Company, Jawa Timur 61252, Indonesia) BID for 14 days.	
	14-Jan-15	Two weeks after completion of Cefadroxil, it was observed that there was pus discharged from the animal's left ear.	Cefadroxil 500mg (Bernofarm Pharmaceutical Company, Jawa Timur 61252, Indonesia) BID for 21 days.	
Clear symptom for seven months.				
		Audible, heavy breathing, deep coughing, and pendulous air sac in September-October 2015 (two months).		
Clear symptom for six months.				
2	Jun-16	Had been observed with airsacculitis since May, was confirmed in June 2016 with large volume of brown, caseous pus drained during surgery. Pus drainage was observed persistently, accompanied with nasal discharge and heavy breathing (eleven months)	Cefradroxil 1000mg (Bernofarm Pharmaceutical Company, Jawa Timur 61252, Indonesia) BID for 21 days. Two weeks later, Ciprofloxacin 500mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) BID was given for 23 days.	Airsac marsupialization and repeated flushing of the airsac on week 4, week 7, week 8, week 14, week 15, week 17 after the surgery.
	19-Oct-16	CT scan in October 2016 suggested mild bilateral airsacculitis, mild bilateral lower lobe pneumonia and bronchial walls thickening plugged with mucus.	Clavamox 625mg (PT. Kalbe Farma, Tbk, Bekasi 17037, Indonesia) bid for 14 days, continued with levofloxacin 500mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) SID for 8 weeks combined with Azithromycin 400mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) 3 times a week for 12 weeks.	
	04-Mar-17	The symptoms of airsac pus drainage, nasal discharge, and heavy breathing persisted, therefore Azithromycin was given.	Azithromycin 400mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) 3 times a week for 5 weeks.	
Clear symptoms for 3 months.				

RH: ORDS CASE SERIES

CLINICAL MANAGEMENT OF CHRONIC ORANGUTAN RESPIRATORY DISEASE SYNDROME IN THREE ADULT MALE BORNEAN ORANGUTANS (PONGO PYGMAEUS)

Fransiska Sulisty, DVM, MVS, Nancy P. Lung, VMD, MS, Agnes P. Sriningsih, DVM, Stuart A. Aronson MD, and Jennifer L. Taylor-Cousar, MD, MSCS

3	8-Jul-17	Heavy breathing and pus drainage observed again from July 2017 until February 2018 (eight months). CT Scan evaluation suggested right side rhinitis, bilateral mastoiditis, mild airsacculitis, and resolution of pneumonia. Improvement of airway disease was also observed.		
	18-Dec-17	Heavy, audible breathing, persisted.	nebulized salbutamol 2.5mg (GlaxoSmithKline Australia Pty Ltd, Victoria 8003, Australia) BID for 6 weeks.	
	16-Feb-18	Due to no improvement in the clinical symptoms, long term Azithromycin was initiated in February 2018.	Azithromycin 400mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) 3 times a week, combined with nebulized salbutamol 2.5mg (GlaxoSmithKline Australia Pty Ltd, Victoria 8003, Australia) BID, long term ^d .	
Clear symptoms for 25 months				
	12-Dec-18	No clinical sign observed. CT scan evaluation suggested resolution of rhinitis, unchanged bilateral mastoiditis, recurrence of airsacculitis, however there were improvements in airway wall thickening and mucus plugging	Continuation of long-term Azithromycin and nebulized salbutamol, added with nebulized hypertonic saline 4ml (3% PT. Otsuka Indonesia, Malang 65216, Indonesia, or 7% PARI Respiratory Equipment, Inc., Virginia 23112, USA) BID, long term.	
4	20-Apr-20	Accumulation of pus in the airsac with pasty consistency and greenish color (one month)	Continuation of long-term Azithromycin, nebulized salbutamol, and nebulized hypertonic saline, added with levofloxacin 500mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) SID for 4 weeks, followed by nebulized Tobramycin 160mg (APP Pharmaceuticals, Inc, Schaumburg, Illinois, US) BID for 13 days.	
Clear symptoms for eleven months.				
5	23-Apr-21	Produced thick, white nasal discharge, accompanied with coughing (one month).	Continuation of long-term Azithromycin, nebulized salbutamol, and nebulized hypertonic saline, added with levofloxacin 500mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) SID for 4 weeks.	
Clear symptoms for four months.				

RH: ORDS CASE SERIES

CLINICAL MANAGEMENT OF CHRONIC ORANGUTAN RESPIRATORY DISEASE SYNDROME IN THREE ADULT MALE BORNEAN ORANGUTANS (PONGO PYGMAEUS)

Fransiska Sulisty, DVM, MVS, Nancy P. Lung, VMD, MS, Agnes P. Sriningsih, DVM, Stuart A. Aronson MD, and Jennifer L. Taylor-Cousar, MD, MSCS

6 ^c	6-Sep-21	Produced thick, white nasal discharge, accompanied with coughing (one month).	Continuation of long-term Azithromycin, nebulized salbutamol, and nebulized hypertonic saline, added with levofloxacin 500mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) SID for 4 weeks.	
Clear symptoms for two months				
7	27-Nov-21	Produced thick, white nasal discharge, accompanied with coughing (one month).	Continuation of long-term Azithromycin, nebulized salbutamol, and nebulized hypertonic saline, added with levofloxacin 500mg (PT. Kimia Farma, Jakarta Pusat 10110, Indonesia) SID for 4 weeks.	
Clear symptom for three months				
8	19 mar 22	Produced thick, brown nasal discharge, coughing, and pus accumulation in airsac. Pus was brown with caseous consistency (one month).	Continuation of long-term Azithromycin, nebulized salbutamol, and nebulized hypertonic saline, added with herbal medicine (ginseng extract) and supplements (fish oil, probiotics).	
Clear symptom for nine months (up to December 2022)				

^aA new episode is defined as a new appearance of clinical signs that was not observed for at least 2 months prior to the episode, which persisted and progressed for more than three days, and thus warranted the administration of an antibiotic with or without surgical treatment to clear the air sac accumulation of pus.

^bIn addition to the antibiotic treatment, supportive care like anti-pyretic, anti-histamine, and painkillers were given to the animal during his exacerbation episodes as per the vets' discretion.

^cThe exacerbation that occurred in November of 2021 coincided with a temporary halt to azithromycin therapy due to a drug shortage during the Covid pandemic. Nebulization continued during this period.

^dStart of the chronic ORDS treatment.