BRIEF NOTE

**Isolation of *Chlamydia psittaci* from Imported
Psittacine Birds in Japan**

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(Received for publication October 20, 1980)

Chlamydiosis caused by the avian strain of *Chlamydia psittaci* is a disease transmissible to man. Various species of birds infected with *C. psittaci* excrete the organism in their feces [8], allowing transmission to other birds or mammals in the immediate environment. Chlamydial isolations from avian species including pet, domestic and wild birds have been described by several investigators [8]. In Japan, Chlamydial isolations from birds have been reported [2, 3, 5, 7, 14]. However, the epidemiology of *C. psittaci* in imported psittacine birds has not been thoroughly studied. This brief note is a case report describing chlamydial isolations from psittacine birds which died shortly after importation.

Between April and August, 1980, a total of 1,147 psittacine birds were imported from various countries by one dealer. Upon arrival the birds received chlortetracycline as a precautionary measure against chlamydiosis. Despite antibiotic treatment, 212 of these birds were either morbid or dead within 2 weeks of quarantine: 64 were parrots (*Psittacus erithacus* and *Amazona aestiva*); 16 were cockatoos (*Kakatoë sulphurea*); 11 were lorries (*Eos bornea* and *Trichoglossus haematod*) and 121 were parakeets (*Psephotus haematonotus*, *Platy-*

cercus adscitus palliceps, *Psittacula alexandri fasciata* and *Psittacula krameri manillensis*). The principal clinical signs were depression, ruffled feathers, dyspnea and a greenish-white diarrhea. Upon necropsy, gross lesions usually consisted of splenomegaly, hepatomegaly, multifocal areas of necrosis on the liver surface and turbid air sacs. Impression smears were made from lesions in all three tissues, and stained by the methods of Gimenez [1] and Macchiavello [6]. After bacterial examinations, the livers and spleens were homogenized in phosphate-buffered saline containing streptomycin (500 µg/ml) and kanamycin (500 µg/ml). The suspensions were centrifuged at 2,000 rpm for 20 min. The supernatant fluid of each sample was then inoculated in 0.2-ml amounts into the yolk sacs of 5 embryonated chicken eggs (7-day-old) obtained from a specific pathogen free flock maintained by our laboratory. The inoculated eggs were observed for 10 days after which a second passage was made of yolk sacs from surviving embryos in the manner described above. After a third passage, yolk sacs were examined for chlamydial organisms using the Gimenez stain. Any dead embryos which did not die from bacterial contamination were also examined for

Table 1. Prevalence of *Chlamydia psittaci* from imported psittacine birds

Species of birds		No. of imported birds	No. of birds examined	No. of birds with <i>C. psittaci</i>	Prevalence (%)
Parrot	<i>Psittacus erithacus</i>	200	30	21	70.0
	<i>Amazona aestiva</i>	310	34	25	73.5
Cockatoos	<i>Kakatoë sulphurea</i>	72	16	9	56.3
Parakeets	<i>Psephotus haematonotus</i>	150	15	11	73.3
	<i>Platycercus adscitus palliceps</i>	15	10	7	70.0
	<i>Psittacula alexandri fasciata</i>	40	5	4	80.0
	<i>Psittacula krameri manillensis</i>	300	91	70	76.9
Lories	<i>Trichoglossus haematod</i>	30	9	6	66.7
	<i>Eos bornea</i>	30	2	1	50.0
Total		1,147	212	154	72.6

chlamydia.

Table 1 summarizes the numbers of examined birds positive for *C. psittaci*: 46 parrots; 9 cockatoos; 92 parakeets and 7 lories. These numbers reflect a total prevalence of chlamydial infection of 72.6% among the imported birds brought to our laboratory.

Avian chlamydiosis can become an important public health problem if proper restrictions on bird importations are not taken. Our results suggest that the psittacine birds examined were in incubative stages of chlamydial infection, thus providing potential reservoirs of infection for man and other birds. During 1975 to 1977, 236 human cases of avian related chlamydiosis have occurred in 33 states within the U.S. [13]. Despite the establishment of strict quarantine procedures and chemotherapeutic treatments of imported avian species in 1972, the U.S. has had an apparent mild increase in the numbers of human [11, 13] and psittacine [9-11] cases of chlamydial infections. It may be that some of this increase is due to lack of required chemotherapy in quarantine centers. In recent years, human cases of chlamydiosis have occurred in Japan involving 8 people from a quarantine center [12] and private fanciers of psittacine birds [3, 4]. If large numbers

of various avian species continue to be imported into Japan, then necessary quarantine procedures must be established to protect the health of Japanese citizens.

Acknowledgments. We thank Dr. S. Shimakura, of Gifu University, for encouragement. The authors are grateful to Dr. S. B. Hitchner of Cornell University, and Dr. T. R. Meyers, of Oregon State University, for critical readings and suggestions of the manuscript.

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要 約

日本における輸入オウム類からのクラミジアの分離 (短報): 山下照夫・平井克哉 (岐阜大学農学部家畜微生物学教室)——1980年4月から8月の間に, 某輸入業者は諸外国から計 1,147羽のオウム類の愛玩鳥を輸入した。検疫後2週間以内に斃死あるいは病的症状を呈して殺処理した計 212羽から, クラミジアが 72.6% (154羽) の率で分離された。これらの鳥は保菌状態で輸入され, 環境の変化などで発症したものと考えられた。輸入愛玩用鳥類については検疫制度の改革ならびに輸入業者, 小鳥店などの行政指導の強化が望まれる。