had contact with the index case after her death were not included.

None of the 9 secondary cases reported tick bites, exposure to wild animals, or participation in hunting activity in the preceding 2 months, and only 1 reported recent outdoor activity. For all 9 secondary cases, culture serological, antigen detection, and nucleic acid detection studies for other infectious etiologies were negative.

Of 24 regional hospital health care workers who had contact with the index patient, 18 were on duty during the final 12 hours, and 4 of the 18 who were involved in the endotracheal intubation were infected. Of these 4, 3 were involved in endotracheal intubation and care during times of hemorrhage. Sixteen of 24 health care workers (67%) from the regional hospital wore masks and 9 of 24 (38%) wore gloves.

Of 17 family members who reported contact with the index patient at the regional hospital, 13 were present during endotracheal intubation, 5 of whom were infected. Of these 5 individuals, 3 reported blood contamination of skin and possible mucocutaneous exposures, suggesting direct contact with blood or respiratory secretions as the mechanism of transmission.

Among the 28 individuals who reported close contact (≤50 cm) with the index patient during the final 12 hours of her life, 9 were infected. In contrast, none of the 11 individuals who reported a physical distance of more than 50 cm from the index patient during the same time was infected. The index patient was exposed to 20 contacts for more than 2 hours, and 9 were infected, whereas none of 19 contacts exposed fewer than 2 hours was infected. All 9 infected patients reported contact with blood ($P = .002$) and 7 had contact with respiratory secretions (relative risk, 7.0; 95% confidence interval, 1.7-29.1; Table 2). Those persons with skin expsoure to blood ($P < .001$) or respiratory secretions ($P = .004$), or those with preexisting skin lesions or injuries followed by exposure to blood (relative risk, 3.6; 95% confidence interval, 1.1-7.6; $P = .02$) were significantly more likely to be infected (TABLE 3). Neither exposure to stool nor exposure to

Table 1. Clinical, Laboratory, and Serological Findings of 9 Patients With Nosocomial Human Granulocytic Anaplasmosis

	Infected Patients								
	2	3	4	5	6	7	8	9	10
Clinical findings[a]									
Days hospitalized	19	21	19	19	19	19	21	19	36
Temperature ≥38.5°C	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Malaise	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chills	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diarrhea	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Myalgia	Yes	No	Yes	Yes	No	No	Yes	No	Yes
Coryza/pharyngitis	No	No	No	No	Yes	Yes	No	No	Yes
Headache	Yes	No	No	No	No	Yes	No	No	No
Nausea	No	No	Yes	No	No	No	No	No	Yes
Edema	No	No	No	No	No	Yes	No	No	No
Gum bleeding	No	No	No	No	No	Yes	No	No	No
Dysuria	No	No	No	No	No	No	No	No	Yes
Laboratory values									
Lowest blood count, range of normal									
White blood cell, 4500-11 000/μL[a]	2600	1900	2700	2100	2500	1200	1800	3700	2200
Platelet, 150-350 × 10³/μL	46	49	85	39	115	47	40	52	42
Highest liver enzymes, U/L									
AST, men <38; women <32	252	116	ND	77	ND	50	50	77	78
ALT, men <40; women <31	84	66	ND	64	ND	89	89	74	139
Anaplasma phagocytophilum IgG titers									
Days after onset									
0-7	<64	<64	<64	64	64	<64	<64	<64	<64
20-25	ND	64	64	128	128	128	ND	64	128
55-70	256	256	<64	256	256	<64	64	128	ND
A Phagocytophilum PCR results									
rrs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
groEL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Abbreviations: ALT, alanine aminotransferase; AST, aspartate aminotransferase; ND, not done; PCR, polymerase chain reaction.
[a] Clinical findings that were documented during the course of each patient's hospitalization.

urine from the index case resulted in increased risk (0.6 and 1.1, respectively).

COMMENT

Nine cases of *A phagocytophilum* infection were confirmed at the regional hospital in the Anhui Province of China in a 9-day period. All presented with HGA as described in North America and Europe[7] and fulfilled the US CDC laboratory criteria for the diagnosis of HGA.[15] The most remarkable aspect of these cases was that transmission was very unlikely to be tick-borne, but was closely associated with blood or respiratory secretion exposure from an index patient who died of a fulminant febrile illness with hemorrhage. Although the index patient can only be categorized as a possible case, clinical and historical support for the diagnosis of HGA is strong. She had a tick bite within the known incubation period and had a clinical presentation compatible with severe HGA.[4] Moreover, the epidemiological investigation of exposed individuals with HGA implicates her as the index case. Unfortunately, no tissue or serum sample is available to confirm retrospectively her diagnosis.

Human granulocytic anaplasmosis and human monocytic ehrlichiosis were initially identified with presentations now recognized as relatively uncommon for their natural histories.[18,19] Infection can be severe, with intensive care unit admission required in 7% of patients and fatalities occurring in up to 1%, yet most infections are sporadic and probably self-limited.[4] Based on the mild to moderate severity observed in 8 of the 9 secondarily infected patients, Chinese HGA conforms to the spectrum of clinical severity observed in North America.[4,7,15] The fatal outcome in the index case is clinically similar to that observed for other HGA fatalities, including exsanguination with sepsis syndrome possibly relating to cytokine overproduction, opportunistic infections, and increased HGA severity in the setting of preexisting medical conditions such as diabetes mellitus.[7,20]

A phagocytophilum transmission in China and Asia is predicated on the presence of this zoonotic agent in vector ticks and vertebrate hosts. Although studies in Asia are limited, at least 8 have examined *A phagocytophilum* infection of ticks, including 2284 *Ixodes persulcatus* ticks, of which 4.4% carried *A phagocytophilum* DNA, a prevalence similar to that in European and North American *Ixodes* species ticks.[12,14,21-27] Likewise, 9% and 24% of *Apodemus* species field mice in northern China and Korea, respectively, and 64% of *Crosidura lasiura* shrews in Korea are infected.[13,21,24,28,29] Although no proven cases of HGA have been previously identified in China, at least 1 study describes *A phagocytophilum* DNA in the blood of 4 Chinese patients with tick bites,[14,30] and seroepidemiological investigations demonstrate that 2% to 9% of febrile patients in Korea,[10,11] and between 0.5% and 6% of healthy Chinese residents have *A phagocytophilum* antibodies.[31]

Rare examples of nontick transmission of HGA exist in the literature and include direct exposure to deer blood,[32] transfusion,[33] and transplacental transmission.[34] Similarly, under the proper circumstances other rickettsial infections are transmissible via aerosol, direct contact with mucous

Table 2. Risk Factors for Acquisition of Human Granulocytic Anaplasmosis Among 39 Contacts Exposed to Index Patient While at the Regional Hospital

Exposure to Index Patient	No./Total (%)		Relative Risk (95% Confidence Interval)[a]	*P* Value[b]
	Attack Rate With Exposure Factor	Attack Rate Without Exposure Factor		
≤50 cm to nose and mouth	9/28 (32.1)	0/11 (0)		.04
>2 h	9/20 (45.0)	0/19 (0)		.001
During or after intubation	9/30 (30.0)	0/9 (0)		.09
During massive hemorrhage period	4/9 (44.4)	5/30 (16.7)	2.7 (0.9-7.9)	.17
Any direct blood contact	9/22 (40.9)	0/17 (0)		.002
Direct respiratory or tracheal secretion contact	7/13 (53.8)	2/26 (7.7)	7.0 (1.7-29.1)	.003

[a] Infinite or not able to be calculated.
[b] Fisher exact test (2 tailed).

Table 3. Risk Factors for Human Granulocytic Anaplasmosis Associated With Direct Exposure to Index Patient's Blood and Respiratory Secretions

Exposure Factor	No./Total (%)		Relative Risk (95% Confidence Interval)[a]	*P* Value[b]
	Attack Rate With Exposure Factor	Attack Rate Without Exposure Factor		
Any direct blood contact during hemorrhage				
On skin	9/12 (75.0)	0/10 (0)		<.001
Open wounds or abrasions	4/4 (100.0)	5/18 (27.8)	3.6 (1.1-7.6)	.02
Not washed timely	4/8 (50.0)	5/14 (35.7)	1.4 (0.5-3.8)	.66
Direct respiratory or tracheal secretion contact				
On skin	7/8 (87.5)	0/5 (0)		.004
Open wounds or abrasions	4/4 (100.0)	3/9 (33.3)	3.0 (1.2-7.6)	.07
Not washed timely	3/6 (50.0)	4/7 (57.1)	0.9 (0.3-2.4)	>.99

[a] Infinite or not able to be calculated.
[b] Fisher exact test (2-tailed).

membranes or conjunctivae, or mechanical fomite transmission.[35-38] Direct exposure to small blood volumes probably carries a low risk because experimental and natural infections of white-tailed deer result in only low-level bacteremia.[39] However, it is possible that this low risk may be offset by large volumes of animal blood and tissues, such as those to which butchers are exposed.

Another factor related to transmissibility is the blood burden of *A phagocytophilum*, which appears to increase with immunosuppression resulting in absolute infected neutrophil counts as high as 2.7 to 5.9×10^9/L.[18,40] It is unclear to what degree the sustained dexamethasone treatment of the index case contributed to transmission. The final consideration is the likelihood of health care worker and family member exposure to sufficient volumes of infectious body fluids to account for transmission. It is not unusual for occupational blood exposure to occur among those caring for patients with hemorrhage or during procedures such as intubation or surgery, for which the relative risk is 3 to 4 times higher than for other medical specialties.[41] In western societies, most family members are excluded from these events and health care workers are increasingly protected by training and barriers such as gloves, gowns, and masks.[42] However, retrospective questioning of our cases clearly indicated that both family members and health care workers not only participated in these events but were unlikely to use gloves and so reported that body surfaces were contaminated by potentially infectious fluids. Moreover, many participants did not acknowledge use of postexposure precautions, such as hand and skin washing.

Although it is likely that routine blood and body fluid precautions will protect against such future events, strict adherence to protective protocols is mandatory even if communicability is deemed unlikely. The lessons of this study remain relevant to the daily hospital and health care unit operations to prevent any additional nosocomial outbreaks of HGA. Moreover, as China advances into its future, it must also now become prepared to deal with the increasing threat that tick-borne rickettsial pathogens have been already brought to the United States and Europe.

Author Contributions: Dr Xu had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. Drs Zhang, Liu, Ni, Li, Y. Yu, and X. Yu contributed equally to this work.
Study concept and design: L. Zhang, Liu, Ni, Li, Y. Yu, Wan, Jing, Rui, Yang, Wang, Dumler, Feng, Ren, Xu.
Acquisition of data: Liu, Ni, D. Li, Y. Yu, Wan, Q. Li, Liang, Jiang, Jing, Rui, Luan, Fu, J. Zhang, Xu.
Analysis and interpretation of data: L. Zhang, Liu, Ni, Li, Y. Yu, X. Yu, Wan, Liang, Jiang, Jing, Dumler, Feng, Xu.
Drafting of the manuscript: L. Zhang, Liu, Ni, Q. Li, Y. Yu, Wan, Liang, Jiang, Jing, Luan, Fu, J. Zhang, Dumler, Xu.
Critical revision of the manuscript for important intellectual content: X. Yu, Q. Li, Rui, Yang, Wang, Dumler, Feng, Ren, Xu.
Statistical analysis: L. Zhang, Ni, Q. Li, Y. Yu, Wan, Liang, Jiang, Jing, Rui, Luan, Fu, Zhang.
Obtained funding: Rui, Wang, Xu.
Administrative, technical, or material support: Liu, Ni, D. Li, Y. Yu, X. Yu, Wan, D. Li, Liang, Jiang, Jing, Rui, Yang, Feng, Ren, Xu.
Study supervision: Wang, Dumler, Feng, Xu.
Financial Disclosures: Dr Dumler reports that he holds a patent for a method for in vitro propagation of *A phagocytophilum* for which royalty fees are paid. Otherwise no other authors report disclosures of financial or potential conflicts of interest.
Funding/Support: This work was supported by grants 2005CB522904 and 200802016 (Dr Xu) from the Ministry of Science and Technology and by emerging response found from National Institute of Communicable Disease Control and Prevention, China CDC, Beijing, China.
Role of the Sponsor: The sponsors provided funding, but had no role in determining study design, data collection, or interpretation.

REFERENCES

1. Chen SM, Dumler JS, Bakken JS, et al. Identification of a granulocytotropic *Ehrlichia* species as the etiologic agent of human disease. *J Clin Microbiol*. 1994; 32(3):589-595.
2. Petrovec M, Lotric Furlan S, Zupanc TA, et al. Human disease in Europe caused by a granulocytic *Ehrlichia* species. *J Clin Microbiol*. 1997;35(6):1556-1559.
3. Dumler JS, Barbet AF, Bekker CP, et al. Reorganization of genera in the families Rickettsiaceae and Anaplasmataceae in the order Rickettsiales: unification of some species of *Ehrlichia* with *Anaplasma*, *Cowdria* with *Ehrlichia* and *Ehrlichia* with *Neorickettsia*, descriptions of six new species combinations and designation of *Ehrlichia equi* and "HGE agent" as subjective synonyms of *Ehrlichia phagocytophila*. *Int J Syst Evol Microbiol*. 2001;51(pt 6):2145-2165.
4. Dumler JS, Madigan JE, Pusterla N, et al. Ehrlichioses in humans: epidemiology, clinical presentation, diagnosis, and treatment. *Clin Infect Dis*. 2007;45 (suppl 1):S45-S51.
5. McNabb SJ, Jajosky RA, Hall-Baker PA, et al. Summary of notifiable diseases—United States, 2005. *MMWR Morb Mortal Wkly Rep*. 2007;54(53): 2-92.
6. Bakken JS, Goellner P, Van Etten M, et al. Seroprevalence of human granulocytic ehrlichiosis among permanent residents of northwestern Wisconsin. *Clin Infect Dis*. 1998;27(6):1491-1496.
7. Dumler JS, Choi KS, Garcia-Garcia JC, et al. Human granulocytic anaplasmosis and *Anaplasma phagocytophilum*. *Emerg Infect Dis*. 2005;11(12): 1828-1834.
8. Ijdo JW, Meek JI, Cartter ML, et al. The emergence of another tickborne infection in the 12-town area around Lyme, Connecticut: human granulocytic ehrlichiosis. *J Infect Dis*. 2000;181(4):1388-1393.
9. Dumler JS. Anaplasma and ehrlichia infection. *Ann N Y Acad Sci*. 2005;1063:361-373.
10. Heo EJ, Park JH, Koo JR, et al. Serologic and molecular detection of *Ehrlichia chaffeensis* and *Anaplasma phagocytophila* (human granulocytic ehrlichiosis agent) in Korean patients. *J Clin Microbiol*. 2002;40(8):3082-3085.
11. Park JH, Heo EJ, Choi KS, et al. Detection of antibodies to *Anaplasma phagocytophilum* and *Ehrlichia chaffeensis* antigens in sera of Korean patients by western immunoblotting and indirect immunofluorescence assays. *Clin Diagn Lab Immunol*. 2003; 10(6):1059-1064.
12. Ohashi N, Inayoshi M, Kitamura K, et al. *Anaplasma phagocytophilum*–infected ticks, Japan. *Emerg Infect Dis*. 2005;11(11):1780-1783.
13. Chae JS, Kim CM, Kim EH, et al. Molecular epidemiological study for tick-borne disease (*Ehrlichia* and *Anaplasma* spp.) surveillance at selected US military training sites/installations in Korea. *Ann N Y Acad Sci*. 2003;990:118-125.
14. Wen B, Cao W, Pan H. Ehrlichiae and ehrlichial diseases in China. *Ann N Y Acad Sci*. 2003;990: 45-53.
15. Chapman AS, Bakken JS, Folk SM, et al. Diagnosis and management of tickborne rickettsial diseases: Rocky Mountain spotted fever, ehrlichioses, and anaplasmosis—United States: a practical guide for physicians and other health-care and public health professionals. *MMWR Recomm Rep*. 2006;55 (RR-4):1-27.
16. Wen B, Jian R, Zhang Y, et al. Simultaneous detection of *Anaplasma marginale* and a new *Ehrlichia* species closely related to *Ehrlichia chaffeensis* by sequence analyses of 16S ribosomal DNA in *Boophilus microplus* ticks from Tibet. *J Clin Microbiol*. 2002; 40(9):3286-3290.
17. Bell CA, Patel R. A real-time combined polymerase chain reaction assay for the rapid detection and differentiation of *Anaplasma phagocytophilum*, *Ehrlichia chaffeensis*, and *Ehrlichia ewingii*. *Diagn Microbiol Infect Dis*. 2005;53(4):301-306.
18. Bakken JS, Dumler JS, Chen SM, et al. Human granulocytic ehrlichiosis in the upper Midwest United States: a new species emerging? *JAMA*. 1994; 272(3):212-218.
19. Maeda K, Markowitz N, Hawley RC, et al. Human infection with *Ehrlichia canis*, a leukocytic rickettsia. *N Engl J Med*. 1987;316(14):853-856.
20. Dumler JS, Barat NC, Barat CE, et al. Human granulocytic anaplasmosis and macrophage activation. *Clin Infect Dis*. 2007;45(2):199-204.
21. Cao WC, Zhan L, He J, et al. Natural *Anaplasma phagocytophilum* infection of ticks and rodents from a forest area of Jilin Province, China. *Am J Trop Med Hyg*. 2006;75(4):664-668.
22. Cao WC, Zhao QM, Zhang PH, et al. Granulocytic Ehrlichiae in *Ixodes persulcatus* ticks from an area in China where Lyme disease is endemic. *J Clin Microbiol*. 2000;38(11):4208-4210.
23. Cao WC, Zhao QM, Zhang PH, et al. Prevalence of *Anaplasma phagocytophila* and *Borrelia burgdorferi* in *Ixodes persulcatus* ticks from northeastern China. *Am J Trop Med Hyg*. 2003;68(5):547-550.

24. Kim CM, Yi YH, Yu DH, et al. Tick-borne rickettsial pathogens in ticks and small mammals in Korea. *Appl Environ Microbiol*. 2006;72(9):5766-5776.
25. Rar VA, Fomenko NV, Dobrotvorsky AK, et al. Tick-borne pathogen detection, Western Siberia, Russia. *Emerg Infect Dis*. 2005;11(11):1708-1715.
26. Shpynov S, Fournier PE, Rudakov N, et al. Detection of members of the genera *Rickettsia*, *Anaplasma*, and *Ehrlichia* in ticks collected in the Asiatic part of Russia. *Ann N Y Acad Sci*. 2006;1078:378-383.
27. Kim CM, Kim MS, Park MS, et al. Identification of *Ehrlichia chaffeensis*, *Anaplasma phagocytophilum*, and *A bovis* in *Haemaphysalis longicornis* and *Ixodes persulcatus* ticks from Korea. *Vector Borne Zoonotic Dis*. 2003;3(1):17-26.
28. Zhao QM, Wu XM, Zhang PH, et al. Study on the coinfection of three tick-borne infectious diseases in China using polymerase chain reaction method [in Chinese]. *Zhonghua Liu Xing Bing Xue Za Zhi*. 2005;26(1):9-13.
29. Chahan B, Jian Z, Xuan X, et al. Serological evidence of infection of *Anaplasma* and *Ehrlichia* in domestic animals in Xinjiang Uygur Autonomous Region area, China. *Vet Parasitol*. 2005;134(3-4):273-278.
30. Gao D, Cao W, Zhang X. Investigations on Human ehrlichia infectious people in Daxingan Mountains [in Chinese]. *Zhonghua Liu Xing Bing Xue Za Zhi*. 2001;22(2):137-141.
31. Zhang L, Shan A, Mathew B, et al. Rickettsial seroepidemiology among farm workers, Tianjin, People's Republic of China. *Emerg Infect Dis*. 2008;14(16):938-940.
32. Bakken JS, Krueth JK, Lund T, et al. Exposure to deer blood may be a cause of human granulocytic ehrlichiosis. *Clin Infect Dis*. 1996;23(1):198.
33. Leiby DA, Gill JE. Transfusion-transmitted tickborne infections: a cornucopia of threats. *Transfus Med Rev*. 2004;18(4):293-306.
34. Horowitz HW, Kilchevsky E, Haber S, et al. Perinatal transmission of the agent of human granulocytic ehrlichiosis. *N Engl J Med*. 1998;339(6):375-378.
35. Oster CN, Burke DS, Kenyon RH, et al. Laboratory-acquired Rocky Mountain spotted fever. The hazard of aerosol transmission. *N Engl J Med*. 1977;297(16):859-863.
36. Diez Ruiz A, Ramos Jiménez A, López Ruz MA, et al. Boutonneuse fever transmitted by conjunctival inoculation. *Klin Wochenschr*. 1988;66(24):1212-1213.
37. Kenyon RH, Kishimoto RA, Hall WC. Exposure of guinea pigs to *Rickettsia rickettsii* by aerosol, nasal, conjunctival, gastric, and subcutaneous routes and protection afforded by an experimental vaccine. *Infect Immun*. 1979;25(2):580-582.
38. Hawkins JA, Love JN, Hidalgo RJ. Mechanical transmission of anaplasmosis by tabanids (Diptera: Tabanidae). *Am J Vet Res*. 1982;43(4):732-734.
39. Tate CM, Mead DG, Luttrell MP, et al. Experimental infection of white-tailed deer with *Anaplasma phagocytophilum*, etiologic agent of human granulocytic anaplasmosis. *J Clin Microbiol*. 2005;43(8):3595-3601.
40. Bayard-Mc Neeley M, Bansal A, Chowdhury I, et al. In vivo and in vitro studies on *Anaplasma phagocytophilum* infection of the myeloid cells of a patient with chronic myelogenous leukaemia and human granulocytic ehrlichiosis. *J Clin Pathol*. 2004;57(5):499-503.
41. Denis MA, Ecochard R, Bernadet A, et al. Risk of occupational blood exposure in a cohort of 24,000 hospital healthcare workers: position and environment analysis over three years. *J Occup Environ Med*. 2003;45(3):283-288.
42. Tarantola A, Golliot F, Astagneau P, et al. Occupational blood and body fluids exposures in health care workers: four-year surveillance from the Northern France network. *Am J Infect Control*. 2003;31(6):357-363.

> Nothing is more estimable than a physician who, having studied nature from his youth, knows the properties of the human body, the diseases which assail it, the means which will benefit it, exercises his art with caution, and pays equal attention to the rich and the poor.
>
> —Voltaire (1694-1778)

医薬品 研究報告 調査報告書

識別番号・報告回数			報告日	第一報入手日 2009年4月10日	新医薬品等の区分 該当なし	総合機構処理欄
一般的名称	別紙のとおり		研究報告の公表状況	第82回日本細菌学会総会 (2009年3月12日～14日)	公表国 日本	
販売名(企業名)	別紙のとおり					

研究報告の概要

問題点：retrospectiveな解析により、マダニ媒介性の新興感染症である「アナプラズマ症」のヒト感染症例が日本で初めて確認された。

「アナプラズマ症」は、1994年に米国で初めて確認されたマダニ媒介性の新興感染症で、その病原体はリケッチア目に分類される*Anaplasma phagocytophilum*である。本菌は、ヒトの顆粒球に特異的に感染して、発熱を伴ったリケッチア症様の疾患を引き起こす。我が国では、これまで「アナプラズマ症」のヒト感染症例は確認されていなかった。今回、*A. phagocytophilum*の感染が疑われる発熱性疾患患者を見出したので報告する。2002年～2003年に高知県で発生した発熱性疾患患者において、「日本紅斑熱」が疑われた18名の患者の血餅からDNAを抽出し、*A. phagocytophilum*に特異的な*p44/msp2*外膜蛋白遺伝子群を標的としたNested PCRを行った。その結果、2名の患者から*p44/msp2*遺伝子群のPCR産物が検出された。その後、得られた増幅産物をTAクローニングし、無差別にそれぞれ27個と40個の組換え体を選出して、塩基配列を決定し系統樹解析を行った。その結果、得られた*p44/msp2*クローンはそれぞれの患者に特異的なクラスターを形成することが判った。また、2名の患者のうちの1名は、「日本紅斑熱」起因細菌である*Rickettsia japonica*の16SrDNAもPCRにより増幅されたことから、この1名は、*A. phagocytophilum*と*R. japonica*の混合感染であることが判明した。以上、今回のretrospectiveな解析により、日本国内にも*A. phagocytophilum*感染による「アナプラズマ症」の存在が強く示唆された。よって、今後は、大規模な患者探索が望まれる。

報告企業の意見	今後の対応
別紙のとおり	今後とも関連情報の収集に努め、本剤の安全性の確保を図っていきたい。

使用上の注意記載状況・その他参考事項等

記載なし

MedDRA/J ver.12.0