TULAREMIA

ANIMAL GROUP AFFECTED	TRANS-MISSION	CLINICAL SIGNS	FATAL DISEASE ?	TREATMENT	PREVENTION & CONTROL
Callitrichids, *Saimiri sciureus, Hylobates lar,Macaca* spp.,*Cercopithecus nictitans, Miopithecus talapoin,* Lemuridae.	Perorally (food,water), aerogenously, arthropods, contact.	Nonhuman primates: oral ulcers, salivation,nasal/ ocular discharges man: pneumonic or typhoid tularemia	*Francisella tularensis tularensis* in man : 2 – 4%, *F.tularensis holoarctica* in nonhuman primates fatal	Streptomycin, kanamycin, gentamicin, doxycyclin	*in houses:* protective clothing during meat processing or skinning of wild animals in zoos: rodent (lagomorph) control

Fact sheet compiled by Manfred Brack, formerly German Primate Center, Göttingen/Germany.	**Last update** 22.11.2008
Susceptible animal groups *F.tularensis tularensis* : reservoir hosts: lagomorphs *(**Sylvilagus* spp.,** *Lepus californicus)*,sheep; man *F.tularensis holoarctica*: reservoir hosts: lagomorphs (*Lepus timidus, L.europaeus*), Cricetidae (*Arvicola terrestris),* birds. Occasionally: *Saguinus oedipus, S. nigricollis, Leontopithecus chrysomelas, Callithrix jacchus, Saimiri sciureus, Hylobates lar, Macaca nukatta, Macaca fascicularis, Cercopitheucus nictitans nictitans, Miopithecus talapoin, Lemur catta, Vaerecia variegata, man*	
Causative Organism *Francisella tularensis* with 4 subspecies*: F.tularensis tularensis (* Type A), *F. tularensis holoarctica* (Type B), *F.tularensis mediasiatica, F.tularensis novicida).*	
Zoonotic potential Yes (10 out of 30 hunters in Hassia/Germany fell ill with tularaemia in 2005!).Altogether 688 human tularaemia cases with at least 2 fatalities in Germany between 1949 and 2006	
Distribution *F.tularensis tularensis* : North- and South America *F.tularensis holoarcitca* : Europe, Asia, Americas.	
Transmission *F. tularensis tularensis:* perorally (food, water), aerogenously, arthropods (ticks: *Haemaphysalis , Amblyomma, Dermacentor* spp.), deer flies (*Chrysops discalis),* *F. tularensis holoarctica* : perorally (food, water), tabanids, *Culicoides* spp.	
Incubation period 2 – 10 days (occasionally more than 1 month)	
Clinical symptoms Callitrichids and *M.fascicularis* : sudden death, oral ulcers, chronic sinusitis, man: variable from chronic adenopathy to septic infection or pneumonia	
Post mortem findings Ulcerative stomatitis, Lymphadenitis, hepato - and splenomegaly, hepatic and splenic necroses granulomatous pneumonia	
Diagnosis cultivation (aerogenous, blood agar, cysteine heart agar) serology (cave: cross reactions with *Brucella* spp. and *Yersinia enterocolitica* !) :agglutination, immunofluorescence, ELISA, nested PCR for *Fop* A gene, RNA sequencing, real time PCR for type A and B differentiation.	
Material required for laboratory analysis blood, pus, necrotic materials (**caution: *F.tularensis* extremely infectious*!)***	

OIE Reference Laboratory

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Relevant diagnostic laboratories

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Treatment

Antibiotics: streptomycin, kanamycin, gentamicin, doxycyclin.

Prevention and control in zoos

Proper quarantine management, rodent/ lagomorph control.

Suggested disinfectant for housing facilities

Notification

Guarantees required under EU Legislation

Guarantees required by EAZA Zoos

Measures required under the Animal Disease Surveillance Plan

Measures required for introducing animals from non-approved sources

Measures to be taken in case of disease outbreak or positive laboratory findings

Conditions for restoring disease-free status after an outbreak

Experts who may be consulted:

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