



Zoonoses in goats: How to control them[☆]



Annie Rodolakis*

Animal Infectiology and Public Health, 37380 Nouzilly, France

ARTICLE INFO

Article history:

Available online 31 January 2014

Keywords:

Zoonoses
Prevention
Control
Brucellosis
Chlamydiosis
Q fever
Rift Valley Fever

ABSTRACT

Zoonoses are infections that spread naturally from animals to humans. Most of the zoonoses diagnosed in goats are transmitted by close contact of man with goats and are occupational diseases that principally affect breeders, veterinarians and slaughterhouse workers. Others are airborne diseases and affect people living in the vicinity of caprine herds. But some of them are foodborne diseases which are mainly transmissible from animal to man through contaminated food or water. Finally others are transmitted by vectors, and climate changes may possibly modify the vector distribution and competence, and allow the propagation of the infections in disease-free countries.

Prevention and control measures are proposed to limit further epidemics or to allow the containment of outbreaks. These measures may depend on several factors as the economic consequences of the animal disease, the local situations, the epidemiology of the zoonoses, the presence of the infection in wild fauna, as well as the resistance of the microorganism in the environment.

In this review, the clinical signs in animals and humans of the main caprine zoonoses as well as the route of transmission of the agents and the control measures are reported. In addition four abortive diseases, Brucellosis, Chlamydiosis, Q fever and Rift Valley Fever are more particularly analyzed in order to determine the factors that contribute to the choice of the control strategies.

© 2014 Elsevier B.V. All rights reserved.

1. Introduction

Zoonoses are diseases and infections that are naturally transmitted between vertebrate animals and humans. According to the World Health Organization (WHO) and the Center for Disease Control and Prevention (CDC) at least 61% of all human pathogens are zoonotic and about 75% of all emerging pathogens that have affected humans over the

past 10 years have been caused by pathogens originating from an animal or from products of animal origin.

All types of agents: bacteria, parasites, fungi, viruses and unconventional agents may be zoonotic (Table 1). Most of the zoonoses diagnosed in goats are transmitted by close contact of man with goats and are occupational diseases that principally affect breeders, veterinarians and slaughterhouse workers (Table 1). Others are airborne diseases and affect people living in the vicinity of caprine herds. But goats can also transmit infection through raw milk and unpasteurized dairy products (*Brucella melitensis*, *Listeria monocytogenes*, *Staphylococcus aureus*, *Campylobacter* spp, *Salmonella* spp, Rift Valley Fever and eventually *Coxiella burnetii*) or meat and meat products (*B. melitensis*, *Toxoplasma gondii*, *Campylobacter jejuni*, *Clostridium perfringens*, *Cryptosporidium parvum*). However foodborne diseases outbreaks associated with goat meat are fairly

[☆] This paper is part of the special issue entitled Industrial and Rural Activities in the Goat Sector including Science, Innovation and Development (Based on XIth International Conference on Goats, Gran Canaria, Spain), Guest Edited by Noemí Castro.

* Correspondence to: 19 rue de Rougemont, 37380 Crotelles, France. Tel.: +33 2 47 55 00 65.

E-mail address: Annie.Rodolakis@hotmail.fr

Table 1

Main zoonoses transmitted by goats.

Disease	Agent	Clinical in goats	Signs in humans	Route of transmission for human	Control measures
Bacterial disease					
Brucellosis	<i>Brucella melitensis</i>	Abortions, stillbirths, epididymitis, Orchitis, arthritis	Undulant fever, fatigue, headache, sweats, arthralgia, chills, malaise, weight loss, myalgia, abortion	Oral, respiratory, conjunctival, cutaneous	Vaccination of goats Test and slaughter Education of exposed people
Chlamydiosis	<i>Chlamydia abortus</i>	Abortions, stillbirths, asymptomatic infections, epididymitis, pneumonitis, conjunctivitis	Flu-like syndrome, pneumonitis, abortion	Close contact, respiratory, cutaneous	Vaccination of goats Education of exposed people
Q fever	<i>Coxiella burnetii</i>	Abortions, stillbirths, asymptomatic infections, pneumonitis	Fever, flu-like syndrome, pneumonitis, hepatitis, endocarditis, fatigue syndrome, abortion	Respiratory, cutaneous, Oral (±), ticks	Vaccination of goats, manure management Education of exposed people, vaccination of humans at risk (?)
Anthrax	<i>Bacillus anthracis</i>	Cerebral anoxia, pulmonary edema, death, Fever, lameness, edema of the pharynx, dyspea, death	Skin lesions on hands, arms, face or neck, malignant edema, septicemia, airway obstruction, meningitis, toxemic shock, death, diarrhea, vomiting, abdominal pain	Cutaneous, respiratory, oral, close contact with animals and animal products	Vaccination of goats, restriction of animals movements, hygienic measures, Education of exposed people, antibiotic treatment
Listeriosis	<i>Listeria monocytogenes</i>	Abortions, meningo-encephalitis, mastitis, septicaemia in lambs.	Septicemia, meningitis, abortions	Oral	Education of exposed people, antibiotic treatment
Campylobacteriosis	<i>Campylobacter jejuni</i>	Asymptomatic infection Kids: diarrhea, fever, arthritis	Diarrhea, vomiting, abdominal pain, fever, headaches, abortions, endocarditis	Oral	Education of exposed people, hygienic measures antibiotic treatment
Salmonellosis	<i>Salmonella</i>	Asymptomatic infection, abortions. In kids: diarrhea, fever, arthritis	Diarrhea, vomiting, abdominal pain, fever, headaches	Oral	Education of exposed people, hygienic measures, antibiotic treatment
Staphylococcal food poisoning	<i>Staphylococcus aureus</i>	Mastitis	Severe vomiting, abdominal pain, diarrhea, headaches resolves spontaneously	Oral	Hygienic measures
Pasteurellosis	<i>Pasteurella multocida</i> <i>Mannheimia haemolytica</i> <i>P. trehalosi</i>	Pneumonitis, septicemia and death in kids	Pneumonitis, abscess	Respiratory, cutaneous	Vaccination of goats
Erysipelas	<i>Erysipelothrix rhusiopathiae</i>	Arthritis	Erythema, arthritis, endocarditis and sepsis	Cutaneous	Vaccination of goats Antibiotic treatment
Tuberculosis	<i>Mycobacterium bovis</i> <i>M. caprae</i>	Lower respiratory tract disease, lymphadenitis	Cough, unexplained weight loss, fatigue, night sweats, chills, lost of appetite, lymphadenitis	Oral, close contact respiratory	Vaccination of goats, elimination of infected goats, education of exposed people, hygienic measures, vaccination, antibiotic treatment

Download English Version:

<https://daneshyari.com/en/article/2457026>

Download Persian Version:

<https://daneshyari.com/article/2457026>

[Daneshyari.com](https://daneshyari.com)