OTHER BACTERIAL INFECTIONS

• Psittacosis

Chlamydia psittaci infection, acquired through respiratory droplet transmission of chlamydiae from infected birds, has been considered for many years an occupational hazard for employees of pet shops and poultry processing plants (1). Also household cats and breeding catteries have been identified as sources of human *C. psittaci* infection. Person-to-person transmission is rare but has been observed in outbreaks. The incubation period is 6 to 19 days. Human disease presents with a flu-like illness characterized by fever, chills, headache, and less frequently, cough, myalgia, rash, arthralgia and joint swelling. The patient may progress to develop atypical pneumonia, and glomerulonephritis and endocarditis may also occur in more severe cases.

Treatment Recommendation

The recommended treatment for *C. psittaci* infection is doxycycline 100 mg twice daily for 21 days.
Erythromycin (doses as described for Q fever) offers an alternative treatment option but may be less efficacious (2).

1. Peeling RW and Brunham RC. Chlamydiae as Pathogens: New Species and New Issues. Emerg Inf Dis, (2) 4. October 1996.

2. Mandell GL, Bennett JE, Dolin R, Principles and practise of infectious diseases, 5th edition, Chapters 170. 2000

• Epidemic Typhus (*Rickettsia prowazekii)*

Rickettsiae are obligate intracellular bacteria and are difficult to grow in a laboratory setting. Rickettsiae move through mammalian reservoirs and are transmitted by insects or tick vectors. Epidemic typhus is very predominantly a louse-borne infection due to *R..prowazekii.* Unusually, among the rickettsioses, humans are the primary reservoir and there is transmission of lice from person to person. The incubation period is about 8-12 days. Mortality rates are variable but up to 40% in untreated cases have been reported, with even higher rates for those over 50 years of age. Recrudescence can occur many years after the primary infection (Brill-Zinsser disease).

Treatment Recommendation

For treatment of *R. prowazekii,*100 to 200 mg doxycycline as a single dose has been reported to be effective (1, 2, 3). However, up to 100 mg twice daily until 2 to 3 days after defervescence has also been recommended (1). Chloramphenicol, 50 – 75 mg/kg in 4 divided doses until 2 to 3 days after defervescence is an alternative treatment option (1,4).

1. Mandell GL, Bennett JE, Dolin R, Principles and practise of infectious diseases, 5th edition, Chapters 175,176,178,179. 2000.

2. Raolt D.and Roux V. Rickettsioses As Paradigms of New or Emerging Infectious Diseases - Clinical Microbiology Reviews, , Vol 16, N° 4 : p.694-719, Oct.1997.

3. Parola P., and Raoult P. Rickettsioses éruptives. E M C - Maladies Infectieuses, 8-03/470, 24,1998

4. Cook G.C. Manson's Tropical Diseases - Twentieth Edition: Cowan G.O. Rickettsial Infections - Chapter 39, 1996.

• Multidrug-resistant tuberculosis (MDRTB)

M. tuberculosis is commonly transmitted from an infected patient to other persons by coughing aerosolised droplets.
Untreated infections are often fatal.

The successful medical management of patients with MDRTB or of exposed individuals depends on the rapid availability of drug susceptibility test results. Before and after these results are available, the choice of treatment must also take into consideration the likely availability of specific drugs and regional and specialist treatment guidelines (e.g. 1and 2). General management considerations must also take into account the proportion of the population that have already received BCG and the availability of BCG vaccine.

It is not considered to be appropriate or possible to provide general treatment guidance in this document. However, the following list includes the anti-tuberculosis drugs that may need to be used to combat MDRTB: kanamycin, streptomycin, amicacin, capreomycin, rifabutin, ciprofloxacin, ofloxacin, ethionamide, prothionamide, cycloserine, PAS (para-aminosalicylic acid).

There are several different BCG vaccines (containing different daughter strains of Bacillus Calmette Guerin) authorised in various EU member states.

1. CDC. Guidelines for preventing the transmission of Mycobacterium tuberculosis in healthcare facilities, MMWR 43 (RR13): 1-132. 1994.

2. Joint tuberculosis committee. Control and prevention of tuberculosis in the United Kingdom: code of practice 1994. Thorax 1994: 49; 1193-200.

• Shigellosis

Dysentery may be simply defined as diarrhoea containing blood. Although several organisms can cause dysentery, the species of the genus *Shigella* are the most important (1). The most severe cases are usually associated with *S. dysenteriae*.

The initial mode of transmission in the context of bioterrorism would be via contamination of food or water supplies. However, person-to-person spread could result in very many secondary cases. The incubation period varies from 1 to 7 days.

Dehydration should be treated with oral rehydration salts or, if severe, with intravenous fluids (1). Antibiotics are not always necessary. Specific therapy for more severe cases of bloody diarrhoea may reduce the duration of the illness, the risk of complication s and the risk of transmission to others. When considered necessary, ciprofloxacin, or another fluoroquinolone, may be administered. However, the prevalence of resistance to fluoroquinolones is now a major problem in some parts of the world, so that the pathogen cannot be assumed to be susceptible.

1. WHO. Communicable Disease Surveillance and Response (CSR). http://www.who.int. January 21, 2002

• Salmonellosis

Salmonella enterica is spread by contaminated water and food.
The incubation period in infections due to the typhi serotype is normally 10 to 14 days.

When the disease is diarrhoeal (as in infection due to the non-typhi serotypes and occasionally also in typhoid) person-to-person spread occurs in poor hygiene situations and secondary cases are common (1).
In infections due to the typhi and paratyphi serotypes, diarrhoea may or may not occur but person-to-person spread from cases and carriers is still possible.

In typhoid and paratyphoid, and sometimes in salmonellosis due to other serotypes, the organism invades into the blood and the complications include generalised sepsis as well as localised infections in various organs and bones.

Therefore, treatment is routinely given for typhoid and paratyphoid and is sometimes necessary for other serotypes.
Due to increasing resistance to the drugs that were traditionally used for the therapy of typhoid fever, the fluoroquinolones became first line therapy in many parts of the world. In adults, ciprofloxacin (500 – 750 mg orally bid or 400 mg iv bid) has been widely used. Unfortunately, resistance to fluoroquinolones is now a major problem. Ceftriaxone can be used in children and for fluoroquinolone-resistant organisms.

Vaccines against typhoid are authorised in all EU member states.

1. Public Health Laboratory Service, UK: www.phls.org.uk, January 21, 2002

• Cholera

Cholera is spread by contaminated water and food. The incubation period is normally 1 to 3 days.
During an epidemic, 80-90% of diarrhoea patients can be treated by oral rehydration alone, but patients who become severely dehydrated must be given intravenous fluids (1).

In severe cases, an effective antibiotic can reduce the volume and duration of diarrhoea and the period of vibrio excretion.
When necessary, single dose treatment with doxycycline (300 mg) may be used for first line treatment in adults and children > 8 years of age.
In younger children trimethoprim-sulfamethoxazole or erythromycin for 3 days can be recommended when appropriate. Unfortunately, drug resistance is now a considerable problem such that susceptibility to these medicinal products cannot be assumed.

Both parenteral and oral vaccines are authorised in some EU member states. The parenteral inactivated vaccine is not recommended by the WHO due to its limited degree and duration of protection.

1. Communicable Disease Surveillance and Response (CSR). WHO. http://www.who.int. January 21, 2002.