

SALMONELLOSIS

Introduction

Salmonella infections can occur in all animal and bird species and in some reptiles. Infection almost always results from the ingestion of food or water containing the organism (e.g. from faecal contamination) or from direct contact with the faeces of infected animals and birds. Salmonella infections can also occur in humans and are usually associated with food (often known as food poisoning).

In all species, infection may be unapparent, associated with enteritis and diarrhoea or cause septicaemia with fever and, uncommonly, death. It is present in all countries and infections with Salmonella are particularly well documented in the UK.

What is Salmonella?

Salmonella is a rod shaped bacterium, and is one of the many bacteria that can live in the gut. It can grow anywhere outside the body where sufficient nutrients and warmth are present, especially on meat or foods of animal origin.

It is readily killed by heat, as in pasteurisation, and thorough cooking. Most simple disinfectants will kill Salmonella quickly. Many Salmonella strains are sensitive to antibiotics.

Salmonellae are separated into serotypes that are given names such as *S. typhimurium*. The organisms can be isolated from faeces and the bodies of affected animals with relative ease and can be made to grow in the laboratory.

Infection in Animals

Salmonella infections occur in lizards, snakes and turtles (including tortoises), in birds such as parrots, canaries, finches and pigeons and in mammals such as dogs and cats. They are less common in small caged animals. In dogs, cats and reptiles, infection may be unapparent and salmonellae can be found in the faeces of normal animals. These organisms can live happily in the intestine of some animals. They are called carrier animals.

Salmonella infections most often cause enteritis and diarrhoea. The bacteria can also invade the body to cause septicaemia. This invasion results in fever commonly accompanying the enteritis caused by salmonella infection. Affected animals are lethargic, do not eat, and have diarrhoea. The diarrhoea is often not distinguishable from that caused by other microbes. The diarrhoea may be profuse and normally house-trained dogs and cats may become incontinent and foul the house unintentionally. In birds the illness can be less apparent and may only be seen as pasting of the vent.

Very young, old or immunosuppressed animals or birds may be severely affected by the dehydration accompanying the diarrhoea, develop septicaemia or even die. Survivors may have diarrhoea for a time, but most go on to recover completely. Any recovering animal may be a carrier for a varying length of time. The organism can live in the gut lining in small numbers and within local lymph nodes, particularly in the lymphoid areas such as the caecum of birds. Persistence inside the animal can lead to reappearance of infection if the animal develops a different disease.

The organisms responsible for Salmonella infections in pets vary. *Salmonella typhimurium* is the most common, occurring in 40% of cases in dogs and cats in the UK, in finches and pigeons.

Source of Infection in Animals

The main sources of infection for pets are food and direct or indirect contact with infected animals. All tinned foods and pasteurised and sterilised milk are safe and free from Salmonellae. Most commercially available meals and biscuits containing sterilised meat or powdered milk should be free from infection.

Fresh foods such as chicken, liver, tripe, spleen, duck eggs and unpasteurised milk can all be sources of infection if fed raw or under cooked. Any food for pets may be contaminated with salmonellae by rodents or wild birds while in store. Similarly, fresh vegetation given to birds or caged animals may be contaminated. Contact between animals can be direct in the case of dogs, but in most cases transmission from animal to animal of the same species is from exposure to faeces.

Diagnosis

Salmonella infection is not common. A study in 1988/89 found only 1.5% of dogs' and 4% of cats' faeces to be infected. Diarrhoea is the most common symptom of salmonellosis in all animals and birds.

It can take up to three days to identify a Salmonella organism. The sensitivity of the isolate to antibiotics is usually determined as an aid to treatment of any disease.

Treatment in Animals

Young or old animals with severe Salmonellosis may die if untreated. Where necessary, animals should receive fluid to counter dehydration. Treatment with an antibiotic to which the organism has shown to be sensitive is often effective unless a multi-resistant *S. typhimurium* phage is present. Treatment cures septicaemia and saves life. Antibiotics are not used to treat the animal if only diarrhoea is present. There is always concern that treated animals will remain carriers. Tests are available if Salmonella infection is suspected.

Infected faeces should be disposed of safely ideally down the lavatory, by burning, burial after disinfection or by double wrapping the infected faeces in polythene bags and disposing of it. Any infected bedding should be disposed of in the same way and hands and areas in contact with the infected animal disinfected. *Hands should always be carefully washed afterwards.*

Prevention in Animals

- If you are buying a pet ensure that it is healthy first
- Feed foods that are more likely to be free from salmonella such as processed foods e.g. those that are tinned, packaged or bagged
- Keep dogs away from carrion, animal faeces and prevent them from drinking suspected contaminated water as far as possible
- Consider any case of diarrhoea as a potential source of infection for other animals
- Make sure that diarrhoea is treated properly
- Always disinfect after cleaning up diarrhoea
- Clean and disinfect utensils such as food dishes.

Salmonella and Humans

Most Salmonellosis in humans is associated with food and is commonly known as 'food poisoning'. The most important sources of infection are poultry, meat and meat products, e.g. mince, offal and unpasteurised milk. Infection may result from cross contamination of cooked food by raw food, through poor refrigerator storage practice or by inadequate cooking. A very small number of cases may be associated with infection from pets. The source of the infection is usually a diarrhoeic pet, which has been recently purchased. Puppies, kittens and reptiles are the most frequent sources of human infection. Infection results from cleaning up infected diarrhoea and subsequent spread in the house through poor hygiene or from children being licked by infected puppies or kittens. In some cases of food borne infection, both humans and animals are infected by the same source.

Treatment in Humans

Salmonellosis is a food or water borne illness caused by the bacterium *Salmonella* and symptoms include nausea, vomiting, abdominal cramps, diarrhoea, fever and headache. There are many kinds of different illnesses, which can cause these symptoms so *Salmonella* infection should be diagnosed by laboratory tests – they will identify the bacteria in an infected person's stool. Once identified, further testing can determine its specific type and which antibiotics (if any) can be used to treat it.

Prevention in Humans from Pets

- Consider all diarrhoeas in your pet as potentially infective
- Dispose of diarrhoea safely i.e. wrapped and double polythene bagged into a bin, washed down the lavatory, burned or buried in a safe place after disinfection
- Disinfect the contaminated area
- Wash your hands after handling your pet at all times
- Do not allow infected pets to come into contact with young children, old people or those already ill
- Keep infected dogs away from food preparation areas

Conclusion

Salmonella infections occur in all animal and bird species and in some commonly kept reptiles. Salmonella infection in humans is usually associated with food. By feeding pasteurised, sterile or thoroughly cooked food and by maintaining good basic hygiene practices, the risks of Salmonella infection in both pets and humans can be minimised.

Pets are Good for People

Pets provide us with loyalty, companionship, love and affection, as well as the many physical and psychological benefits. The least we can do to repay this is to ensure that we keep them in the best of health. A healthy pet is a happy pet and a happy pet can help us enjoy a much fuller and more rewarding life.

- ends -

For further information, please contact the Pet Health Council on:

Telephone: 020 7379 6545

Email: enquiries@pethealthcouncil.co.uk

Website: www.pethealthcouncil.co.uk