

A NOTE ON SALMONELLOSIS IN ANIMALS IN KUWAIT

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Introduction

Members of the genus *Salmonella*, which are primarily intestinal parasites, are commonly found in farm effluent, human sewage and any material subject to fecal contamination. A fact, well known, is that all species of the genus are pathogenic for man and animals with a very limited range of host specificity. The infection, often referred to as salmonellosis, is one of the zoonotic diseases very intensively studied in some parts of the world.

This report is a fragmentary information on the infection in animals in Kuwait.

Materials and Method

Specimens for bacteriological examination and subsequent serological tests were collected from fecal matter of living animals and organs of dead ones. Table I shows the animal species, history of the case, fate of the animal, the most prominent post mortem finding and other relevant information. The specimens were inoculated in Selinite broth and incubated overnight. The inocula were then streaked onto MacConky agar and incubated for 24 hours. Incubation was under aerobic conditions at 37°C. The resultant non lactose fermenting colonies were then identified according to the method described by Sojka et al (1974). After identification five cultures were sent for confirmation to the Central Veterinary Laboratory, Weybridge, England.

Results

Salmonella typhimurium was isolated from all the specimens mentioned above. Cultures sent to the Central Veterinary Laboratory, Weybridge, were identified as *Salmonella typhimurium* (Lab. Ref. Enterobacteriaceae S 1803, 05/78).

Discussion

In this preliminary report it is stated that *Salmonella typhimurium* was isolated from some animals in Kuwait. The diagnosis was confirmed by the Central Veterinary Laboratory, Weybridge. At

the present time it is difficult to give any data pertinent to the incidence. However, it is evident from the history and post mortem findings that the agent caused morbidities and mortalities.

The organism was isolated from different species of animals. This is not unusual as this bacterial species differs from members of its genus in that it is widely distributed throughout the animal kingdom. A factor, that may be responsible for its distribution in the country may be prevalence of the rats (*Ratus ratus*).

The post mortem finding in the majority of the animals was septicaemia. This explains why the infection was manifested, clinically, by rise in body temperature. In these cases there was no response to treatment with antibiotics. This can well be accepted as Sojka et al., (1977) demonstrated drug resistance in salmonellae isolated from animals.

This report may be of value to both Veterinarians and Medicals in Kuwait as the association between salmonellosis in man and animals has been clearly established. According to Zinsser (1968) *Salmonella typhimurium* is the most frequent cause of salmonella food poisoning. This organism was one of the species most commonly isolated from patients in the United States as reported by Dubos (1966).

Salmonella infection in animals can be acute or chronic and may be manifested by different clinical symptoms. Diarrhoea is inconsistent and may be intermittent (Richardson 1975, Wray, 1978). For this reason it is sometimes difficult for the Veterinarian to establish diagnosis on clinical basis. This justifies the provision and full utilization of adequate laboratory facilities for bacteriological investigations. Such facilities will, no doubt, reduce the potential hazard posed by salmonellosis to both human and animal health in Kuwait. It should be remembered that diseases like Salmonellosis cause much trouble in areas where animal industry is intensified; something which is developing in Kuwait. In addition, in this country live different nationalities, who move in and out of the area so frequently. Humans can act as mechanical or true carriers of salmonellae. Williams et al., (1975) stressed human - to animal cycle and reported an out-break in a farm that resulted from human contamination. So, as a means for prevention it is recommended to examine new arrivals, who will be recruited in the agricultural sector.

Summary

Salmonella typhimurium was isolated from eight horses, six sheep, one cow and a lamb. Living animals from which the organism was recovered showed clinical symptoms manifested by rise in body temperature. Septicaemia and/or enteritis was a prominent post mortem finding in dead animals.

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References

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Table I.

The history, fate and post mortem findings of animals from which *Salmonella typhimurium* was isolated.

| Animal | History | Fate | Post mortem findings | Notes |
|--------|---------------------------|--------|------------------------|-----------------------------|
| Cow | death after delivery | dead | enteritis, septicaemia | no response to antibiotics |
| Horse | acute diarrhia | dead | septicaemia. | |
| Horse | rise in body temperature. | | | |
| | inappetance. | dead | septicaemia | no response to antibiotics. |
| Horse | acute diarrhia. | dead | septicaemia. | no response to antibiotics |
| Horse | rise in temperature. | living | ----- | fecal sample examined. |
| Horse | rise in temperature. | living | ----- | fecal sample examined. |
| Horse | rise in temperature. | dead | septicaemia. | no response to antibiotics. |
| | labour respiration. | | | |
| Horse | ----- | dead | enteritis | ----- |
| Horse | rise in temperature | living | ----- | fecal sample examined. |
| Horse | rise in temperature | living | ----- | fecal sample examined. |
| Sheep | ----- | dead | enteritis | ----- |
| Sheep | diarrhia | dead | enteritis | ----- |
| Sheep | ----- | dead | enteritis, septicaemia | ----- |
| Sheep | ----- | dead | enteritis | ----- |
| Sheep | ----- | dead | septicaemia | ----- |
| Sheep | ----- | dead | enteritis, septicaemia | ----- |
| Sheep | ----- | dead | enteritis, septicaemia | ----- |
| Lamb | Pneumonia | dead | pneumonia, septicaemia | ----- |