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DWARF TAPEWORM IN FOXES

In recent decades the small fox tapeworm, *Echinococcus multilocularis*, has spread northwards in Europe from a focus in Switzerland. Researchers at the Royal Veterinary and Agricultural University have now identified the first definite case in Scandinavia, in a fox that was run over in Taastrup. The worm is still most prevalent in Switzerland, where up to 60% of foxes are infected. In North Germany about 1% of foxes carry the tapeworm. The tapeworm may also occur in dogs and cats. In Switzerland about 0.5% of dogs and cats are infected, but there are also particularly high-endemic areas with up to 12% of infected dogs. The relative importance of cats and dogs for the spread of infection is unknown, however, e.g. whether the eggs of the parasite excreted by dogs or cats are just as infectious as eggs from foxes. Human infection by *E. multilocularis* is rare. Its occurrence in different European countries varies from 0.02 per 100,000 in Austria to 1.4 per 100,000 in parts of France. There have been no known cases of *E. multilocularis* infection in Denmark or in Danes who could have been infected abroad. Infection appears as an invasive, expanding lesion in the liver, which can be mistaken for a tumour.

Routes of infection

The parasite is usually transferred between fox and mouse. The fox excretes the parasites' eggs in the faeces. The mouse ingests the eggs with food, and these form larvae that penetrate the intestinal mucosa and are carried to the liver via the blood. Further foxes may be infected when they eat infected mice.

Symptoms and treatment

As in the mouse, the larvae can produce cysts in man. Medical advice will not usually be sought until liver manifestations appear. The incubation period is 5-15 years and the disease therefore presents most often in the elderly. Treatment is by surgery, and when supplemented with albendazole or mebendazole treatment the 5-year survival is over 80%. Medical treatment can inhibit cyst growth but cannot kill the parasite. Infection may therefore be life-long. It is possible to test for antibodies, but the test is of low predictive value. A

Japanese study found 60 verified cases among 5159 seropositive persons. Serological examination is therefore not currently recommended except when there is clinical suspicion of the disease.

Prevention

The risk of infection can be reduced by not attracting foxes to human surroundings, first and foremost by not feeding foxes and ensuring that garbage is covered or kept out of the foxes' reach. Sandpits can be covered at night to reduce the risk of contamination with fox faeces. Vegetables from kitchen gardens should be thoroughly washed as part of routine kitchen hygiene, especially those which are eaten raw, e.g. lettuce. Hunters should wash their hands carefully after handling foxes. (E. Petersen, Laboratory of Parasitology, C. Kapel, Danish Centre for Experimental Parasitology, The Royal Veterinary and Agricultural University)

INDIVIDUAL NOTIFICATIONS

Up-to-date information on the incidence and spread of infectious diseases in the population is of decisive importance for their prevention and control. The "Notification System for Infectious Diseases" is a significant source of such information. Notifications are made on form 1507. A physician who sees a patient with a notifiable disease has a duty to notify the case both to the local Medical Office of Health and to the Department of Epidemiology. Physicians are fulfilling this obligation to a variable extent. In diseases in which laboratory tests are important for making the diagnosis and for which Statens Serum Institut has a reference function, it is possible to send a notification reminder. It has unfortunately proved necessary to send reminders for 40-70% of notifications for some diseases, [Table 1](#). The figures for 1999 are provisional, as many notifications are received after delays due to the large number of reminders. In

addition, meningococcal disease is required to be notified by telephone. Over 90% of cases are being notified by telephone to the local Medical Offices of Health, a very satisfactory finding. Those diseases for which it is not possible to send a reminder are presumably subject to considerable

Table 1. Individually notifiable diseases: total no. of cases notified and percentage received after a reminder, 1997-1999

| Disease | Year | Notified cases | After reminder % |
|-----------------------|------|----------------|------------------|
| Meningococcal disease | 1997 | 236 | 44 % |
| | 1998 | 165 | 38 % |
| | 1999 | 167 | 43 % |
| Pneumococcal disease | 1997 | 40 | 40 % |
| | 1998 | 97 | 55 % |
| | 1999 | 90 | 56 % |
| TB | 1997 | 554 | 25 % |
| | 1998 | 529 | 21 % |
| | 1999 | 558 | 22 % |
| Legionella | 1997 | 120 | 64 % |
| | 1998 | 93 | 71 % |
| | 1999 | 87 | 57 % |
| Whooping cough | 1997 | 186 | 60 % |
| | 1998 | 125 | 63 % |
| | 1999 | 175 | 62 % |
| Measles | 1997 | 61 | 20 % |
| | 1998 | 28 | 39 % |
| | 1999 | 6 | 50 % |
| Mumps | 1997 | 30 | 60 % |
| | 1998 | 22 | 41 % |
| | 1999 | 20 | 40 % |

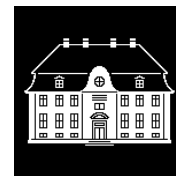
under-reporting. The Department of Epidemiology wish to encourage physicians to be more aware of the need to notify these diseases rapidly, so that their surveillance and prevention can be improved. Notifiable diseases and the criteria for notification are listed on the back of form 1507. (S. Samuelsson, Dept. of Epidemiol.)

QUARTERLY REPORT

4th quarter of 1999

As shown overleaf, the 4th quarter of 1999 saw a continuation of the rise in the number of notified cases of tuberculosis in comparison with the same quarter of 1998. The rise occurred chiefly in North Jutland County and was especially attributable to cases in foreigners. The higher number of cases of hepatitis A was partly related to an outbreak in a day-care institution in Frederiksborg County. The increase in notifications of whooping cough continued. 48 of the patients (86%) were less than 1 year old.

2 February 2000



Patients with selected individually notifiable diseases

Notifications received October-December 1998, by county, compared with the same period of 1998

| County | AIDS | | Hepatitis A | | Meningococcal disease | | Tuberculosis | |
|-------------------|------|------|-------------|------|-----------------------|------|--------------|------|
| | 1999 | 1998 | 1999 | 1998 | 1999 | 1998 | 1999 | 1998 |
| Cph. Municipality | 4 | 8 | 5 | 9 | - | - | 39 | 38 |
| Frb. Municipality | 3 | 1 | - | 1 | 2 | - | 6 | 2 |
| Copenhagen | 1 | 2 | 8 | 6 | 1 | 3 | 14 | 11 |
| Frederiksborg | 1 | 2 | 8 | - | - | 1 | 2 | 7 |
| Roskilde | - | - | - | 1 | 4 | 1 | 3 | 2 |
| West Zealand | 1 | 1 | 6 | - | 3 | 2 | 5 | 8 |
| Storstrøms | - | 1 | - | - | - | 1 | 8 | 13 |
| Bornholms | - | - | 1 | - | - | - | 1 | - |
| Funen | 2 | - | - | 1 | - | 2 | 9 | 8 |
| South Jutland | - | 1 | 2 | - | 1 | 2 | 1 | 3 |
| Ribe | 1 | 1 | 1 | 1 | 2 | - | 5 | 1 |
| Vejle | - | 1 | 1 | - | 2 | 1 | 10 | 5 |
| Ringkøbing | - | - | 4 | 2 | 1 | 2 | 5 | 8 |
| Aarhus | 4 | 1 | - | - | 5 | 6 | 17 | 14 |
| Viborg | - | - | - | - | 4 | 2 | 1 | - |
| North Jutland | 1 | - | 2 | - | 4 | 2 | 21 | 4 |
| Other | 1 | 1 | - | - | - | - | 1 | - |
| Denmark | 19 | 20 | 38 | 21 | 29 | 25 | 148 | 124 |

(Dept. of Epidemiology)

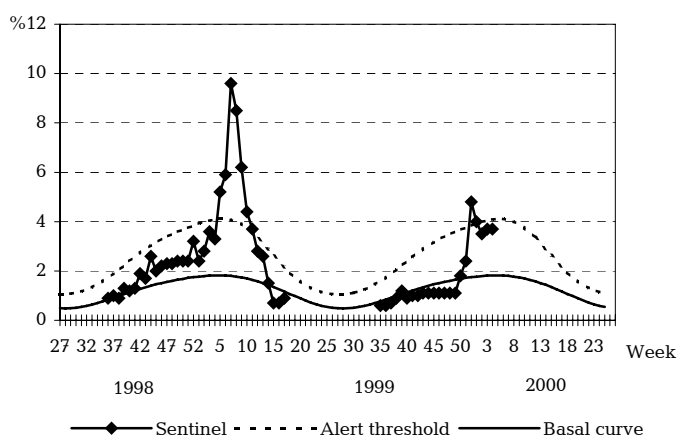
Patients with other individually notifiable diseases

Notifications received October-December 1998 and 1998, from the whole country

| | October-December | |
|----------------|------------------|------|
| | 1999 | 1998 |
| Bacterial me | 18 | 19 |
| Hepatitis B | 16 | 16 |
| Hepatitis C | 2 | 4 |
| Hepatitis B+ - | | 1 |
| Legionellosi | 35 | 27 |
| Measles | | 8 |
| Mumps | 3 | 1 |
| Paratyphoid | 1 | 3 |
| Psittacosis | 6 | 2 |
| Shigellose | 8 | 22 |
| Typhoid fev | 2 | 6 |
| Whooping cough | | |
| < 2 years | 56 | 44 |

Influenza activity in sentinel surveillance

Weekly percentage of consultations, 1998/1999/2000



Sentinel: Influenza consultations as % of total consultations

Basal curve: Expected frequency of influenza consultations under non-epidemic conditions

Alert threshold: Possible incipient epidemic

Up to week 4 inclusive a total of 120 patient specimens have been received via the sentinel system. Twentyseven influenza A isolates have been found, of these, 24 was subtyped as influenza A/Moscow/10/99-A/Sydney/5/97(H3N2)-like.

(Dept. of Epidemiology)