

Causes of mortality and diseases in hare (*Lepus europaeus*) in Southern Belgium.

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Since a few years, a decline of European brown hares (*Lepus europaeus*) populations has been reported in some regions of Southern Belgium. Different reasons have been suggested to explain this trend to decline such as intensive agricultural practices, increasing pressure of predators, climatic conditions and/or infectious diseases. In this context, analyses of found dead animals are strategic to determine if infectious diseases may be partly involved in this decline.

From November 2006 to April 2009, the Surveillance Network of Wildlife Diseases operating in Wallonia collected 50 hares (46 adults and 4 juveniles less than 2 months old; 29 males and 21 females). Animals were found dead or euthanized by hunters for ethic reason; most of the carcasses were frozen before examination. After complete necropsy, livers were systematically tested for European Brown Hare Syndrome virus (EBHSV) by RT-PCR (Dr. G. Le Gall-Reculé, AFSSA, Ploufragan, France). Targeted bacteriologic and parasitologic analyses were performed according to suggestive gross lesions.

The body condition was reported as emaciated for 26 hares, poor for 10, and good for 14.

RT-PCR results for EBHS were positive for 5 of the 50 hares tested. The cases concerned 4 adults and one juvenile. All except the juvenile were in good body condition. Gross lesions consisted in mild to severe pulmonary congestion (n = 5), hemorrhagic content in the small intestine (n = 4), discoloration and loss of consistency of the liver (n = 2), hepatic congestion (n = 1) and mild enlargement of the spleen (n = 2). Histopathology was not performed due to the freezing of the carcasses. Seven other hares presented lesions suggestive of EBHS (pulmonary congestion or haemorrhages, hepatitis, enlargement of the spleen or the liver and/of haemorrhagic syndrome) but RT-PCR showed negative results for these cases. Since some tissue samples were of poor quality, these negative results could be partly due to the degradation of the viral RNA.

Yersinia pseudotuberculosis was isolated from 4 adult male hares showing alteration of the body condition and mild to severe splenomegaly, as well as various lesions in internal organs. Pseudotuberculosis was suspected in eleven other hares; nevertheless the bacteria could not be isolated from spleen or organs showing necrotic lesions in these cases. Besides EBHS and pseudotuberculosis, other pathologies were diagnosed such as intestinal parasitism (8 cases), pasteurellosis (3 cases) and traumatic injuries (5 cases). Miscellaneous causes of death include one case of stress and one case of starvation in leverets, one case of purulent pericarditis due to *Staphylococcus aureus* and one case of cardiomyopathy.

These results show a wide diversity in causes of death, with a predominance of infectious diseases and chronic pattern. The presence of EBHS has been confirmed in Southern Belgium, without evident epizootic mortalities. Additional data are needed to strengthen the epidemiologic picture of the diseases in hare populations in our country.