

Synopsis Wolf February 7th 2010

Dear Friends,

We can summarize matters pertaining to the presence of hydatid disease as follows. As expected, following some time after the spread of wolves, there was the entry of sylvatic hydatid *Echinococcus granulosus* disease into said wolf populations and associated prey. Earlier on fox tape worm, *E. multilocularis* had spread into the NW United States and I understand that it is still spreading. This dreaded parasite has been reported from foxes and coyotes. Since *E. multilocularis* has been reported from wolves in Europe, and since wolves may be avid “mousers”, opportunity permitting, it is likely that *E. multilocularis* will be reported in American wolves as well. As you are aware *E. multilocularis* cycles primarily between canids and rodents (mainly voles). Moreover, since the pastoral type of *E. granulosus* is found cycling between domestic sheep and dogs further south, it is likely that, in time, stray wolves will pick up this variant of hydatid disease. Consequently, we expect wolves, eventually, to be carriers of sylvatic, pastoral and alveolar hydatid disease.

You may have noticed that there is some discrepancy in the accounts of hydatid disease emanating from wildlife agencies as opposed to accounts by clinicians. My understanding of hydatid disease, which I have carried with me ever since my student days over 40 years ago, matches that of the clinicians. It is a silent disease, difficult to diagnose, with little specificity in symptoms, gradually developing worse over 10-20 years, and, depending on the location and number of cysts, ranging in effects from benign to lethal. It is particularly dangerous to anyone engaged in an active, sporting lifestyle, since blows to the body can lead to rupture of cysts with dreadful consequences, and prolonged, costly treatment. Alveolar hydatid disease in particular is likely to be lethal.

It is well known that domestic dogs play a very large risk factor in hydatid disease. Unlike in Northern Canada or Alaska, in the West one is dealing with much greater densities of people, dogs and carrier species such as deer or elk. High incidents of the parasite in wolves and coyotes and a high infestation rate with cysts in lungs and liver of deer and elk, put at risk the ranching, farming and rural communities. In winter time deer and elk will frequently be found on ranches close to communities. Dogs from ranches, farms and hamlets will have access to winter killed carcasses of deer and elk as well as to offal left in the field during the hunting season. Once infected with dog tape worm, the ranch and house dogs will contaminate the yard, porches, living rooms etc with hydatid eggs. There is no escape from this! Ten to twenty years down the road, hydatid disease will raise its head, in particular in persons who as toddlers crawled over floors walked over by people and dogs carrying in hydatid eggs from the outside. Please inform yourself what this is likely to mean in terms of prognosis, suffering and costs!

We know that in the past there were attempts in Finland and in Russia to eliminate, or at least control hydatid disease. In Finland the eradication of hydatid disease was accomplished by diminishing wolf numbers and treating domestic dogs with antihelminthic drugs. I am suggesting that eliminating hydatid disease be discussed, and suggest the following approach.

1.) Assuming the number of wolf packs can be reduced so as to retain a vibrant, abundant prey base, that developmental studies proceed on how to create bait stations that are accepted by wolves, with bait containing anti-helminthic drugs that are readily eaten by wolves. I am aware that this will not be a quick project. Rather I expect that wolves will accept bait stations, let alone the bait, only very gradually. It will take time, experimentation and sophisticated know how to make bait stations operational. However, once accepted by wolves, the bait stations will break the hydatid cycle between wolves and ungulates. Over time, this will lead to diminished infections of deer and elk, and this with re-infection with the parasite by wolves and coyotes.

2.) Unfortunately, under moist and cold conditions hydatid eggs remain viable for months and may even infect after three and a half years. Under dry, hot conditions the eggs die quickly. Burning the under story in forests will not eliminate the dangers from hydatid eggs, but will certainly reduce such. It's a policy worth looking at.

3.) Simultaneously, a thorough campaign must be initiated to regularly de-worm dogs in danger areas as well as encourage specific hygienic measures. Here it means winning the ears and the trust of the rural communities.

Finally we have to look to history. Wolves have been exterminated from lived in landscapes universally because they, or their diseases, posed a serious threat to affected people, livestock and wild life. The lessons from history are that we can at best live with wolves if such are relatively few, the abundance of natural prey is high, and the risk from diseases non existent. We have the means and intelligence to achieve such.

Sincerely,

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