**ARDS: major or minor problem ?**

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| Lately in a number of Dalmatian club magazines in Holland and abroad articles about ARDS have been publicised. ARDS (Respiratory Distress Syndrome) with Dalmatians is a disease that can be compared to  pneumonia. It can not be cured and declares itself at an age from 4 till 10 months. Symptoms are rapid and rasping breathing, coughing, vomiting, overall weakness, and at the end serious breathing problems, after which the dog dies from asphyxiation.  In 1987 the first cases of ARDS occurred in Finland. In 1992 there was one litter in Denmark where one puppy died of ARDS, according to official announcements.  The articles that have been publicised about ARDS give a lot of information about the illness and the breeding lines in which they have occurred, but also have the tendency to proclaim that, although ARDS is a serious inheritable disease, chances for a Dalmatian being a carrier of the -gene are minimal after seven generations.  Last year, when looking for a stud dog for my bitch Starlong Sweet Symphony, my eye was caught by a beautiful young dog from Norway, with excellent background, very sound and with beautiful temperament.  Informing with the breeder of this dog, she gave me the pedigree and mentioned the fact that this dog was 7th generation ARDS. This was for me the first time I was directly confronted with ARDS and had to ask myself the question if I wanted to bring this into my lines.  Before I could make such a decision I decided I need to know more about recessive genes and what might be the consequences of bringing this into my lines.  **What is a recessive gene?**  Prof. Dr. Hans Galjaard, a well known Dutch genetic, describes in his book "All people are unequal", in a simple and clear way how an recessive and inheritable illness arises and spreads.  Quote: "Most genetic mutations donít lead to illness if they only arise in the DNA of one of the chromosomes from a couple. Such a mutation is called recessive and will be passed on unnoticed for generations. Somebody with such a genetic mutation is called a carrier. So if a carrier  has children with a partner who is accidentally also a carrier for exactly the same DNA failure, there is a chance of one to four that their progeny has this inheritable illness". \*)  **How does a recessive genetic illness arises?**  The recessive genetic illness arises by means of a genetic mutation on one of the chromosomes of a couple from one single animal. We call the sound gene "R" and the gene which causes the illness "r". As a couple this forms Rr. This animal will give in 50 % the good gene "R" and in 50 % the wrong gene "r" to his progeny. The problem is that we do not know to which puppy the wrong gene "r" is given, as long as we do not know the location of this wrong gene.  This means that all progeny from this dog is a possible carrier, or a so called "potential carrier".  Let us see what happens while breeding with this one carrier. We mate a carrier with a healthy animal, the combination gives eight puppies (a normal litter), from which in reality only 4 puppies are carrier. Which one of the puppies are carriers we donít know, instead we have 8 "potential carriers". With these 8 puppies we make new combinations with free dogs, now we have 64 potential carriers. Combinations of these 64 potential carriers with free dogs gives us 512 potential carriers and one combination later with litters of eight puppies gives us no less than 4.096 puppies that are all potential carriers, or so to say might be carrier of this gene, which causes ARDS.  Off course this is purely theoretically ­there are no litters in which will be bred from all the puppies- but it does show that every combination from a potential carrier with a free dog rapidly increases the group of potential carriers.  Continuously making combinations of free dogs with potential carriers can create in short time a population of only potential carriers.  **What happens when you cross two potential carriers?**  When you cross two potential carriers, you have three possibilities:  They are both free from ARDS (RR x RR) and will not pass the wrong gene: Result is: no ARDS  One is carrier of ARDS (Rr x RR):                -    50 % is carrier (Rr)                -    50 % is free (RR)                -    no ARDS from this combination, but the wrong gene                will be passed by dogs from this combination and they  are                all possible carriers.   Both parents are carrier (Rr x Rr): in this case                -    25 % have been given the good gene from both                parents (RR) healthy dogs                -    50 % have been given from one parent the good gene                and from one parent the wrong gene (Rr), the are carrier,                but will not be ill themselves                -    25 % has misfortune and have been give the wrong gene                from both parents (rr,) they will get ill and die.  The dangerous fact about a recessive gene is that it can be passed for generations without causing any illness and therefore stay unnoticed. So, as long as we do not know the exact location of this "wrong" gene, we therefore are unable to determine which dog is free and which dog is carriers, we only increase the group of potential carriers by making combination with "free" dogs.  As long as ARDS is a relatively unknown disease, not every veterinarian will identify a case of ARDS when it occurs. Also if the breeder is informed about the fact that one of his puppies has died of ARDS he  might just be reluctant to get this out in the open, it could ruin this career as a breeder.  According to this, there is a real possibility that there will be cases of ARDS without notification.  **The consequences.**  When there are ARDS lines being brought into breeding lines in England, there could be ultimately cases of ARDS. An outburst of ARDS will certainly decrease the popularity of the Dalmatian. Not to mention the  pain and heartache for the owner that looses a puppy from this terrible disease  **What can be done.**  It is most important that the Dalmatian Club whoís main concern must be the health and well being of the whole Dalmatian population in Britain, is aware of the risks of ARDS in our breed. But most of all the individual breeder has his own responsibility and should never pursue only their own fame and succes.  It is not my task to advice any Dalmatian Club about her statement according to ARDS, for I am not a genetic, I just felt the need to warn about possible problems in the future.  But it is certainly my advice to obtain a scientifically report from an independent institute for genetics in the canine area, and let this (objectively made report) be a basis for a broad discussion in all European  countries.  \*) Note of the writer: the translation of this quote is not an authorised translation.    Jorge Fatauros  Amsterdam, October 31, 2000 |