

(Reprint from 11/18/2014)
The Basset Griffon Vendéen Club
by Professor Peter Bedford (Nov 2012)

Eye Conditions

Glaucoma In The PBGV As most if not all of you are aware a chronic type of glaucoma (Primary Open Angle Glaucoma - POAG) was found in the PBGV breed some 16 years ago. Through the good offices of Vivien Phillips I have been running clinics regularly to help identify affected dogs and institute possible disease control. The difficulty with this disease is its insidious nature, affected dogs not usually exhibiting signs of the disease until the affected eyes start to enlarge or the dog's vision becomes affected. Successful management is rarely possible because treatment requires early diagnosis before the cells of the retina are affected and this is practically impossible. The testing I have done has been to examine for the features of other types of glaucoma seen in other breeds and to rule out any abnormality. But even with early diagnosis and treatment there is usually a slow loss of sight and so the search for a DNA test to identify future affected dogs and possible "carriers" of the causal genetic mutation has become vital. This type of glaucoma is sometimes associated with lens luxation and so it was with considerable interest that I have been following research into a similar type of glaucoma recorded in the Beagle breed in the USA. Very recently Dr. Andras Komaromy of Michigan University announced that his team had identified the mutation thought to be responsible for the Beagle disease and I was hoping that it would be the same mutation in the PBGV. Sadly this has not proved to be the case, but the combined forces of the AHT and the Michigan team are looking for a similar mutation to allow the eventual development of that much needed DNA test. The American Club is now starting to look for the disease and your Club has already put in the mileage necessary to collect DNA samples. It is essential that all known cases are reported to your Health Secretary for the more samples the researchers get the better. We can beat this rotten disease and it is just possible that the work carried out may help research into a similar type of glaucoma in man.

Persistent Pupillary Membrane (PPM) is a recognized condition. Pupillary membranes are a normal neonatal structure that should disappear by the time the puppy is about 8 weeks old: If they persist, they are "non-progressive" and often disappear later in life. .

Primary Open Angle Glaucoma (POAG) is a disease in which the cells that produce sight in the retina are destroyed by a slow rise in the internal fluid pressure in the eye. Normally this fluid, known as the aqueous, is constantly produced inside the eyes to feed the lens and the cornea. It is drained from the eye back into blood vessels and the production and drainage rates are balanced. In POAG it is a disturbance of drainage which leads to an accumulation of this fluid and hence the pressure rise. The sight gradually diminishes and, as the fluid pressure increases, the eye enlarges and the lens may dislocate. Eventually the dog becomes blind. POAG was diagnosed some years ago in an imported PBGV that was discovered to be blind at age four. Since then the club has promoted a continuing surveillance scheme and encourages everyone, especially those with breeding stock, to arrange for their BGVs to undergo two tests.

Professor Peter Bedford has written:

"Undoubtedly there is evidence that Open Angle Glaucoma is inherited. This disease is difficult to manage because it is often silent in its approach and, by the time the diagnosis is made, the dog's sight is badly affected and the eye may be enlarged. Once the process starts it is almost impossible to control. The earlier the diagnosis, the better the chance of effective treatment. Thus it is essential that we establish the diagnostic criteria. Sadly, several factors can be involved and currently we are concentrating on abnormal anatomy in the drainage angle and subtle pressure rises. Therefore the eye examination that your dog receives will involve Gonioscopy (the abnormal anatomy) and Tonometry (pressure)".

Eye Tests

Gonioscopy This test is done once in the dog's life - from 4 months of age onwards. Its purpose is to ensure that the angle is open and to gather information on the significance of what is generally described as pectinate ligament dysplasia (PLO). It is possible there may be both primary open angle glaucoma (POAG) and angle closure glaucoma in the breed, although we have not seen the latter. PLO may influence the speed of POAG progression. It may indicate other angle abnormalities within the ciliary cleft that might contribute to the overall situation. We are still learning about this disease. So gonioscopy must be done.

Tonometry This is done annually, particularly at 3, 4, 5 and 6 years of life. Every 6 months during those years would be better, and every 3 months even better in dogs related to known affecteds - as we do not know how this disease is inherited in BGVs. This test measures out-flow pressure and aids early identification of problems such as POAG, Progressive Retinal Atrophy and Lens Luxation.