FRIEND'S EXPERTISE AIDS THIS

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discusses the management of this cattle virus with schemes to control and even eradicate it

MORE than 45 years ago I was waiting for my interview at the University of Bristol. I was sitting next to Joe Brownlie and we talked in hushed tones about our worries concerning our pending interviews. Mercifully, we were both successful.

Joe is my oldest veterinary friend – we came through college together and have kept in close contact ever since. Joe even came out to stay with me in Kenya where my first job was based. After eight years I returned to mixed practice in Norfolk, where I have been ever since.

Joe had embarked on an academic career. He had gained a PhD and was doing research at Compton. He and his young family often came for summer holidays in Norfolk, and if he had the chance, he would come out with me or come to the surgery. He got to know the practice well.

One year we met at a BCVA meeting and he asked me a lot of questions about the practice. To be polite, I asked what his research entailed and his reply was: "It's a little embarrassing, Graham, but I don't think you would understand even if I told you!"

He was 100 per cent correct: he had just cracked bovine viral diarrhoea (BVD) virus and I am still slightly in the dark. I will try to give you my take on the disease, but if you are looking for an erudite explanation, I suggest you do an internet search on Professor Brownlie.

How I saw BVD before Prof Brownlie's research

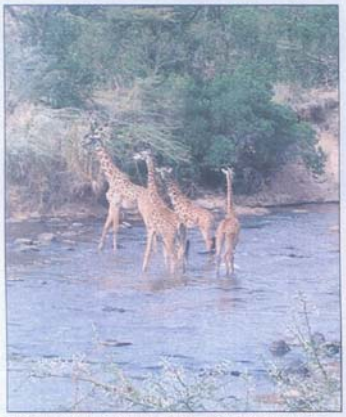
I knew it was a worldwide disease, as we had been told it had been found in the United States very soon after the war. It appeared that high proportions of cattle were seropositive. In the UK the figure was roughly 50 per cent. In Kenya in the late 1960s we had a similar figure for grade cattle, but a much lower figure of 19 per cent in native cattle. We were interested in the disease as the acute erosive stomatitis looked like rinderpest. However, I can assure readers you would not miss rinderpest, as mortality rates can be up to 100 per cent.

BVD – or, as we knew it, mucosal disease – did not have the same mortality and appeared to affect growing cattle. We did see abortions but there was so much brucellosis that I suspect we missed BVD. Bovine malignant catarrhal fever might have caused confusion, but this disease was mainly in Masai cattle and very closely mirrored the wildebeest migration. Bluetongue would not have been on a list of differentials as, in Kenya, this was a disease of wool sheep. Unlike the present situation in the UK, cattle were not clinically infected with bluetongue.

I saw BVD as a fatal disease of growing cattle that showed a fever, but not nearly so high as bovine malignant catarrhal fever, and a necrotising stomatitis. We had no means of control and diagnosis was difficult, as large percentages of normal cattle were seropositive.

How I saw BVD after Prof Brownlie's research

I now see the disease as mainly a condition of adult cattle that causes infertility and abortion. I know it is a pestivirus. I understand that if naive cattle, mainly heifers, meet the virus in the first 20 days after conception, there are catastrophic effects on fertility. If the pregnancy is further advanced but still within the first trimester, approximately a third



Top: camelids are highly susceptible to BVD. Middle: water buffalo do get BVD, and yet giraffe in Masailand (above) have been found to be seropositive for the virus.

VET'S UNDERSTANDING OF BVD

of the calves will be aborted. The other two-thirds will come to term but will be persistently shedding virus. These cattle are the animals that are likely to develop the invariably fatal mucosal disease, and they spread the disease. Naive cattle, which meet the virus late on in pregnancy, may abort, but normally the foetus will not be affected and will come to term. However, there are indications that the calf will not be as vigorous as normal and will succumb to other neonatal diseases.

Progress in profession

Prof Brownlie is the chairman of the national strategy group for BVD control and eradication. Through the initiation of the Holstein UK Club this group has set up pilot schemes to control and, hopefully, eradicate the disease. We are lucky in that Norfolk and Suffolk are included in the three selected areas. We have 80 farms that have enrolled.

There is a mixture of pedigree and commercial holdings and, because of our relatively isolated locality, 50 per cent of the dairy farms and 70 per cent of the beef farms report they are free of the disease.

This relative freedom from infection is not mirrored in Somerset, where the 40 farms that have enrolled have an infection rate of 70 per cent. The situation is even worse in the pilot area in Scotland where more than 80 per cent of the enrolled farms are infected.

Prof Brownlie, with his experience in these pilot schemes, is working on a national model for control and eradication. This is exciting for cattle practitioners – we will be at the forefront in educating and helping our farmers to control and eradicate the disease. Apart from the obvious advantages in growing and adult cattle of eradication, there is a major spin off of great improvement in calf health. This has been seen in the Shetland Islands and Scandinavian countries where the disease has been controlled.

Other tips for practitioners

Three inactivated vaccines are available in the UK. They are all protective to foetal infection and, therefore, very worthwhile. Sadly, they are not marker vaccines so serological findings have to be assessed with care. Practitioners should remember that blood samples in red-top vacuum tubes are only suitable for antibody estimation. If antigen estimation – ie detection of a persistent virus shedder – is required then a heparinised blood sample in a green-top vacuum tube is needed. Most laboratories can detect antibody and antigen from a single sample in a green-top vacuum tube.

The author (right) with Professor Joe Brownlie.

As far as I can find out, no marker vaccine is in the pipeline. However, strenuous efforts are being made to make a viable discriminating test between vaccine antibodies and disease antibodies.

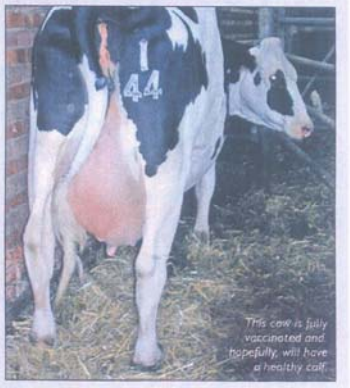
Disturbing news for other species

The virus has been found in sheep and goats, but overt disease is extremely rare. This will have to be factored into any control scheme. What is more worrying is that camelids definitely are at risk, and those of you who work with these animals will know that there is a large amount of movement of females for mating. I feel it is very important that your owners, particularly the owners of small herds without a male, should be made aware of the risks. The efficacy of the vaccine is not known in camelids. It may well give some protection but I would strongly urge caution in the vaccination of pregnant females.

I understand that the virus has been detected in giraffe. I would imagine that it occurs in other ungulates. It has certainly been found in deer in the UK. Water buffalo show very similar manifestations of the disease as seen in cattle, so practitioners dealing with these herds must counsel their owners carefully.

Herd health schemes are the way forward for cattle farmers. We, as practitioners, must be involved at all levels from inception to completion. We can be sure that academics of Prof Brownlie's calibre and experience will help us all the way. ■

Calf health is much improved by BVD control.



This cow is fully vaccinated and hopefully, will have a healthy calf.

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