Table 5

Unidentified Viruses Isolated From Feedlot Animals in 1973

Case No.	Days in Lot	Source of Virus	Tentative Identification	Clinical History
32458	Unknown	Feces	Parvovirus ?	Diarrhea
12538	1-2 Months	Feces	Parvovirus ?	Diarrhea, sometimes bloody
12744	1 Month	Lung & Trachea	Entero., Herpes ?	Field Diagnosis: IBR
20698	2-4 Weeks	Trachea	Herpes, Entero. ?	Obstructive tracheitis

antibodies fixes complement better than IgG. The MDCF test does not, or only irregularly, "pick up" titers induced by vaccines only.

Most diagnostic laboratories recover occasional viruses which do not seem to fit the existing groups. The viruses listed on Table 5 are only tentatively identified and much more work is needed to characterize these agents.

A virus was recovered from the feces of two outbreaks of diarrhea. Both isolates appear to be of the same type. The fecal cultures in these cases were negative for bacterial pathogens. These viral isolates produce a rather rapid CPE typical of the enteroviruses and do hemagglutinate guinea pig red blood cells. They could possibly be parvoviruses or enteroviruses.

Two similar viruses were recovered from calves which were about one month in the feedlot. The field diagnosis in both cases was an "IBR outbreak."

Both isolates appear to be the same. They are definitely not IBR, BVD, or PI-3 viruses. They could possibly be some other type of herpes virus or even picornaviruses since we have not yet determined their sensitivity to ether.

Panel Discussion

Dr. Hal Rinker, *Chairman*
Spearman, Texas

Question: I would like to ask Dr. Crenshaw why he thinks that cattle ought to come from one source.

Dr. Crenshaw: Why they will have two disease outbreaks? One source cows? Well, I think you have to look at them from the standpoint that modified live vaccines can and will create a feeble response.

Question: Let us assume, Dr. Kahrs, that we have a herd where 75% of them are carrying serum antibodies against IBR. When you bring those calves into the feedlot, would you vaccinate them against IBR or would you not?

Dr. Kahrs: If I knew that 75% carried antibodies, I doubt if we would.

Question: Is there any chance of propagating a modified virus; for example, you set up a trial—you go in and vaccinate half the herd or half the number of animals. Is there any chance of propagating the modified virus to give some of the others immunity? Is there any chance of vaccine virus becoming field virus following vaccination and halfway hiding your results?

Dr. Kahrs: There are two questions here, really. One question is whether vaccinating some of the group will immunize the contact. That is possible. However, with all due respect, every vaccine for the feedlot that has been approved for marketing has supposedly been tested in isolation and negative contact control. The sole isolated documented case of a licensed vaccine, the name of which will never be revealed to me, is probably the exception rather than the rule. But this exception could occur on a large scale! It is unfortunate that we don't know more details about this. It makes me lose some faith, both in biological manufacturers and in the agency that is trusted to keep surveillance. That's one question. The next one is, can vaccine virus escaping from a vaccinated animal immunize the contact animal? It shouldn't happen, and in all probability when you buy a vaccine from a reputable manufacturer, the odds are that you should not have this happen. In fact, you should have a high degree of confidence that it will not happen. Now the other question—will the vaccine, after serial passes from animal to animal to animal, revert to its virulent form? The answer again is, although it is feasibly possible, I would say it is very unlikely. This is an opinion. I have never done this. In order to get license, they do what they call serial or back tests on these vaccines. To me it is the same magnitude of faith I have when I pull up to a stop sign or a crossroad where the other guy has the stop sign—99% of the time he is going to

stop, but that one exception is when we are all going to get clobbered!

Question: My question is on IBR vaccine. There is continually a warning label on it not to put this into calves which are nursing pregnant dams, because you might abort the pregnant dam. The other is that they are always saying that you should not put this vaccine into a pregnant animal because you are probably going to make her abort. I was just wondering why we are pulling so many calves out of these feedlot heifers?

Answer: Any modified live virus vaccine has the potential of possibly aborting an animal. I grant that it is quite low, but it does happen.

Question: If we give more than one antigen, do we get a similar response by the animal to each different antigen? Do we get the same response from the animal to the antigen if it has previously been exposed, as you would have if it had not been exposed?

Answer: From what we know now, you can give three different antigens together and get as high antibody response as you do giving them individually. I do not know the answer. Theoretically, if they had been previously exposed you would get an anamnestic response. In animals, as far as I know, we have no good data about whether you would get an anamnestic response to those organisms that that animal had previously contacted prior to its vaccination. We can only speculate, based upon the human data. There is a possibility. What I think is more important in multi-component products is the proper balance of one organism—antigens to another. This is very critical. If you don't get a proper balance, you may very well get a response to those particular antigens that are in there in excess to the detriment of getting any immunological response to those that may be a little smaller in quantity or in proportion. There is one other aspect here that I want to comment on, as far as this balance of antigens in the multi-component product is concerned. The mere putting together of two antigens, certain antigens, causes interference between those antigens so that in a three way product or a six way product you could take a certain amount of antigens in a single component product and get an immunlogical response. Take that same product and mix it with another one, unless you put 50 to 100% more antigen in that product, you won't get anything.

Question: Were you able to identify any of the feed sources of salmonella in the cultures?

Dr. Kahrs: That is a good question. By the time we got there to take cultures, we were about 10 days, maybe 12 days post-exposure. But we did not get salmonella out of any feed stuff, ground, manure or anything like that. We tried. If you read the literature on salmonella outbreak, this is exactly what happens. The suspect feed is gone when you get there; you culture, but you don't get anything. Now I will admit—there are special techniques for picking salmonella out of feeds and concentrates.

Question: Dr. Crenshaw, now that Dr. Kahrs has stuck his neck out and made the comment that you should not vaccinate in the face of the disease, would you confirm or deny that?

Dr. Crenshaw: Well, my feeling is that veterinary medicine is practice, it is an art, not necessarily a science. I think we have to take that into consideration. I, personally, do vaccinate in the face of diseases. I figure if they get the disease they are going to die. We can work our way through anything. I do feel in many instances that we are too late to go ahead and vaccinate. It is a waste of time and money. I think you have to evaluate the herd or the problem that is occurring. I, personally, would vaccinate in the face of the disease if I knew the history adequately and felt confident enough of my diagnosis. I feel that if you want to do it, go ahead and do so, but evaluate the results and arrive at your own opinion. This is a necessary thing. The same thing here—we say we are vaccinating for pasteurella against shipping fever complex. That is the equivilent of urinating in the ocean! We all know it, but maybe it will help. I would not want to say that I would use it everywhere. I do think that you have to pick the places where you might want to use it, what you might want to do or how you might want to do it. Then go ahead and evaluate the results as objectively as you possibly can.

Question: Of the many manifestations of IBR, will a single vaccination give immunity to all?

Answer: As far as I know there is no difference in the strain variation at the moment. IBR vaccine, as far as I know, will take care of all the different forms.