

THIAUCOURT (F.), DI MARIA (A.). Note on CBPP vaccine titration. Old problem, new approach. Preliminary experiments. *Revue Élev. Méd. vét. Pays trop.*, 1989, 42 (3) : 389-391.

A new technique is proposed for the titration of live vaccines against contagious bovine pleuropneumonia (CBPP). Presently, the one most widely used, combines a set of tenfold dilutions with the seeding of five tubes with samples taken from each of these latter. This technique is not very accurate or it requires a great number of tubes to increase its accuracy. The new technique starts with the same tenfold dilutions but after a relevant dilution, samples of 100 µl are put into the eight wells of the first column of a microtitration plate and then with « glucose » medium. After a 6 to 9 days incubation time, the growth can be recorded by an indicator change of color. This technique is much faster and seems to be more precise. Furthermore the eight parallel titrations enable the results to be expressed by means and comparison of results can be statistically meaningful. *Key words* : Contagious bovine pleuropneumonia - Vaccine - Technique.

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Note on an association of *Clostridium novyi* type A and *Clostridium sordellii* with a case of gas-gangrene in a Zebu cow

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EL SANOUSI (S. M.), MUSA (M. T.). Note sur une association de *Clostridium novyi* type A et *Clostridium sordellii* dans un cas de gangrène gazeuse chez une vache Zébu. *Revue Élev. Méd. vét. Pays trop.*, 1989, 42 (3) : 391-392.

Les auteurs décrivent un cas de myosite à gangrène gazeuse sur une vache Zébu avec association de *Clostridium novyi* type A et *Clostridium sordellii*. La présence simultanée de ces deux organismes dans la même lésion est un rareté. Le diagnostic différentiel avec le charbon symptomatique est difficile en l'absence d'examen bactériologiques. Une cause, d'origine iatrogène, est probable et l'introduction de spores par le matériel d'injection lors des campagnes de masse contre le charbon symptomatique ne peut être écartée. L'animal guérit complètement après injection intramusculaire de TerramycineND pendant 4 jours successifs. *Mots clés* : Vache - Zébu - Myosite à gangrène gazeuse - *Clostridium sordellii* - *C. novyi* type A - Infection iatrogène - Soudan.

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In Darfur Province (Western Sudan) a four-year Zebu cow went lame suddenly. On clinical examination the animal had a firm palpation of the right quarter which was painful to the touch and had a crepitant sound. An area of two inches in diameter was shaved and disinfected with 70 p.100 alcohol. On parenthesis coloured serous exudate containing bubbles of gas was collected. The fluid was cultured on reinforced clostridial agar enriched with 10 p.100 defibrinated sheep blood agar. The plates were incubated in BTL anaerobic jar under an atmosphere of hydrogen and carbon dioxide (5:1 v/v) generated by a gas generating kit (Oxoid), at 37 °C for 48 hours.

Two types of colonies were recovered and designated A and B. Type A colonies were thin and had a tendency for swarming with rhizoidal margins. Type B colonies were lozenge-shape with the long axis following the direction of streaking. These colonies were raised with ridged contours, crenated with tentacular margins and were surrounded by a clear zone of haemolysis. The two organisms were Gram-positive and had cylindrical, central to subterminal spores.

The biochemical properties were conducted according to COWAN (1). Both organisms produced lecithinase enzyme which was inhibited by antisera on the half-plate antitoxin medium (5). Moreover, organism A produced lipase enzyme demonstrated by a « pearly » layer. Confirmatory tests for organism A including gas liquid chromatography were kindly conducted by the Institute of Plant Production and Animal Health in the Tropics and Subtropics, University of Göttingen, West Germany. This revealed 86.8 p.100 butyric acid, 5.1 p.100 isobutyric acid, 4 p.100 propionic acid, 3.2 p.100 isovaleric acid and 0.8 p.100 valeric acid. The organism was finally diagnosed as *Clostridium novyi* type A. The synergistic haemolysis test of GUBASH (2) was conducted for organism B and was diagnosed as *Clostridium sordellii*.

Each of these two organisms is occasionally involved in cases of clostridial myositis which is well recognized as a cause of death in cattle (4). However, the occurrence of both organisms in one lesion was rarely reported. The case under study was clinically indistinguishable from blackleg, but bacteriologically the case turned to be gangrenous myositis. The differential diagnosis of the two conditions is difficult on clinical grounds, especially when there is no history of trauma. The incidence took place in an area where blackleg disease prevails. Mass vaccination is routinely practiced and hence apparent iatrogenic infection could not be overruled (3). Moreover, the site of isolation of both organisms is unusual. The intramuscular route injection, when not properly practiced, might lead to the introduction to clostridial spores.

Communication

The traumatic action of the needle will cause necrosis of tissues. The later will favour the germination of spores and hence onset of signs.

Excellent recovery occurred after the intramuscular injection of terramycin for four successive days.

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A case of gas-gangrene myositis on a Zebu cow with association of *Clostridium novyi* type A and *Clostridium sordellii* is described. The occurrence of both organisms in the same lesion has been rarely reported and differential diagnosis with blackleg is difficult in the absence of bacteriological tests. An iatrogenic cause cannot be overruled as routine mass vaccination against blackleg are practiced in the area with possible introduction of spores through infection material. Full recovery occurred after four days intramuscular Terramycin™ shot. *Key words* : Zebu cattle - Cow - Gas-gangrene myositis - *Clostridium sordellii* - *C. novyi* type A - Iatrogenic infection - Sudan.

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