STUDY ON THE USEFULNESS OF INFECTED GUM SCRAPING FOR CONFIRMING RINDERPEST IN CATTLE BY AGAR GEL PRICIPITATION TEST

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Although lymphode tissue is considered as a rich source of antigen for confirming rinderpest, investigators often have to face stiff resistance and non co-operation from the stock owners for performing biopsy to collect lymph node tissues from ailing animals. Hence a study on the usefulness of the infected gum scrapings as an alternative material as a source of antigen for confirming rinderpest was undertaken. Until Scott and Brown (1961) mentioned the use of gum scrapings as a source of antigen, nobody had used gum scrapings for any kind of serological diagnosis of rinderpest. Kataria et al. (1977) recommended use of gum scrapings for confirmation of rinderpest by Agar Gel Precipitation Test (AGPT). White (1962) stated the gel diffusion test is ideally suited for rapid and definite identification of rinderpest antigen in the infected tissue and in his experience never gives indefinite results.

MATERIALS AND METHODS

25 cows and 5 buffaloes brought to the Madras Veterinary College Hospital with typical clinical manifestations of rinderpest were subjected to this study. In addition, 5 materials obtained from the field were also used for this study. Gum scrapings were collected with the help of a blunt scalpel and they were transferred to empty penicillin vials containing 5 cc of normal saline. This material was made into a homogeneous suspension and centrifuged. The supernatant fluid was used as the antigen. The standard rinderpest hyperimmune serum (freeze dried Rabbit origin) supplied by the I. V. R. I., Mukteswar was used. Five cm petridish containing eight cc of 10% noble agar with thimersal (1: 2000 concentration as preservative) was used to run the Masani's method of Ouchterlony double diffusion test. The wells were charged with antigen and serum every six hours for two days. Negative and positive controls were included in the test with antigen supplied by I. V. R. I., Mukteswar while testing every suspected material. The results were recorded after 48 hours.

RESULTS AND DISCUSSION

Out of the 35 samples tested 33 gave positive precipitation lines. Two samples brought from field did not give any lines. A follow up on these cases revealed all the animals had died within a week.
from the date of collection of materials. The failure of the two materials to give positive reaction might have been due to improper preservation during transit from the field. White (1958) reports, that putrefication inactivates precipitinogen. However precipitinogen is well preserved at refrigeration temperature of 4° to 8°C.

SUMMARY

Infected gum scrapings is undoubtedly most suitable material to confirm rinderpest by agar gel precipitation test. AGPT is very simple and can be performed in any laboratory with minimum facilities.

REFERENCES


