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Short communication

EVALUATION OF ANTIBODIES AS A DIAGNOSTIC MARKER IN ETHMOID CARCINOMA

Many of the neoplastic cell types are immunogenic for the host in which they arise, as the neoplastic cells acquire certain antigens called transplantation specific cellular antigens (Currie and Bashams, 1972). They may give rise to varying degree of immune response depending on the antigenicity of the tumour cells and the immunocompetence of the host. Therefore, the sera of cancer patients are likely to contain antibody to tumour associated antigens. Since the first report of the carcinoma of the Ethmoid Mucosa in Kerala (Rajan *et al.*, 1972) attempts were made to detect circulating antigen or antibody in the serum of tumour bearing animals.

Serum samples of twentynine tumour bearing animals in various stages of ethmoid carcinoma and twelve clinically healthy animals (control) were collected, inactivated and stored at -50°C. The tumour antigen was extracted from freshly collected pooled tumour tissues and antisera were raised in rabbits. The agar gel precipitation test was conducted by the double diffusion method.

The Sheep Red Blood Cells (SRBC) were sensitized with different concentration of tumour antigens using gluteraldehyde. Passive haemagglutination test was done with all serum samples. The tumour tissue samples were inoculated in 10 - 11 day old embroyonated eggs.

All the 29 serum samples of tumour bearing animals showed two distinct precipitin lines. One thick band close to serum well and second sharp band close to the antigen well. The second precipitin line was similar to the precipitin band obtained for antiserum and antigen indicating that tumour antigen contained soluble antigen and serum of the tumour bearing animals possessed soluble antibody against tumour antigen. The control animal serum samples gave a distinct thick precipitin band and majority of them showed a second sharp band close to antigen well that was observed in tumour bearing animals. The highest PHA titre values obtained for 29 tumour bearing animals and 12 control animals were 1 : 256 and 1: 128 respectively and the lowest was 1: 8 and 1 : 32 respectively. None of the tumour samples processed and inoculated into the embryonated eggs revealed the presence of haemagglutinating agents.

Since majority of the control animal serum also gave both the precipitin lines given by tumour bearing animal's serum, the agargel precipitation test cannot be recommended as an immune marker test for ethmoid carcinoma. The highest PHA titre value showed only a difference of one well on comparison of the control indicating that a baseline cut off value cannot be obtained to differentiate the tumour bearing and control animals.

Summary

Agar gel precipitation test and passive haemagglutination test (PHA) was conducted

using tumour antigens and serum samples. There was no difference between the samples from control animals and tumour bearing animals indicating that these tests cannot be used as a diagnostic tool.

S. Manu Mohan, T. Sreekumaran, R. Madhusoodanan Pillai, K.M. Ramachandran and A. Rajan
Centre of Excellence in Pathology
College of Veterinary and Animal Sciences
Mannuthy, Trichur. 680 651, Kerala

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