

## SUMMARY

The IgG and IgM antibody response to antirabies vaccine in man were studied by using the indirect immunofluorescent technique. Various types of vaccine and vaccination schedules were studied. It was found that IgG and IgM antirabies antibodies appeared simultaneously, and IgG titers were always higher than IgM titers. The four or five doses of PDEV and DEV elicited first detectable antibodies both IgG and IgM on day 13, reached the maximum peak on day 30 and slowly declined afterward in similar fashion. In addition, the IgM antibody response was shown to be greatly prolonged, persistent to over sixty days. The immunogenicity of the DEV was shown to have greater than the PDEV and 5 doses vaccination on alternate days was superior to 4 doses vaccination on spacing apart. It may be concluded that the 5 doses on alternate days schedule is suitable for immediate pre-exposure prophylaxis vaccination in high risk persons. The three single doses or two double doses and one single dose of HDCV elicited first detectable antirabies antibodies both IgG and IgM on day 7, earlier than 5 doses of the DEV or PDEV. The HDCV was found to be an excellent antirabies vaccine, only three doses could stimulate antibody response equal to 14 daily doses or the NTV or DEV. Of the various schedules tested, vaccination with HDCV by a double dose on day 0,7 and a single dose on day 28 was found to produce the highest antibody response in human volunteers. Therefore, this schedule of HDCV is superior to NTV or DEV and should be expected to give

better protection both in post exposure or pre-exposure individuals.

Passive administration of HRIG and vaccine with 3-4 injections of HDCV gave better antibody response than 14 daily injections of NTV or DEV. A minimal but not statistically significant suppression of the IgG antibody response was seen in the group of subjects receiving HRIG in addition to HDCV. The mechanism of the suppression may be due to the interaction of antigen and antibody resulting in a lower level of antigen available to stimulate further antibody formation. This suppression could be overcome by booster doses of HDCV on day 21 and 35. Early and persistent antibody from passive antibody is needed for maximum protection to be afforded by persons severely exposed to rabies. Therefore, in severe exposure to rabies in which HRIG must be needed, the schedule of four single doses or two double and two single doses of the HDCV with HRIG 20 IU/kg may be most suitable schedule. Although the active IgG antibody response might be suppressed in the group which received HRIG, the passive administration of the HRIG markedly enhanced the early IgM antibody levels.

The total of 148 sera and 107 CSF samples obtained from apparently healthy stray dogs were tested for the presence of antirabies antibodies by indirect immunofluorescent technique. A positive result was obtained from 12% of the sera. The CSF samples were all negative for the antibodies. None of the 148 dog brain samples were positive for Negri bodies of rabies virus by Sellers and direct immunofluorescent methods. It was concluded that

recovery or abortive infection from rabies virus in dogs did occur, and that rabies in dogs was not always fatal, and rabies was prevalence in Chiang Mai Province.

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