CHAPTER IV

DISCUSSION

In this study, six (31.2 %) of the 16 multiple sclerosis sera samples and two (20 %) of the 10 multiple sclerosis CSF samples revealed antibodies against myelin basic protein. The present results corroborate previous findings of anti-MBP antibodies in serum and CSF of a substantial number of multiple sclerosis patients.(4,5,20,22-32) However, the occurrence of anti-MBP antibodies in subjects with MS is controversial, because some investigators reported negative results.(6-12) The most promising data reported by Warre and Catz (5) was that CSF anti-MBP levels are of diagnostic value in MS. They found that all patients with active disease had elevated antibody levels. In patients whose MS was exacerbating, the antibody was in free form while in patients whose MS was progressing, most of the antibody was in bound rather than in free form. Chou et al(11) had failed to detect antibodies to MBP or peptic fragments of MBP in either free or bound form in CSF of patients with chronic progressive MS. Both reports performed the similar RIA assays and using acid hydrosis to dissociate bound from antibodies.

These discrepancies of anti-MBP antibody detection can be due to the differences in methodology (4-12,20,22-32)(but even with similar RIA, the reciprocal results were obtained (5,11)), patient selection, freezing and thawing effects, or myelin basic protein may

not be the only encephalitogen. The difference in antigenicity between porcine MBP and human MBP may be one reason, but both are much homologous. By using human MBP or peptic fragments of human MBP and RIA assay, Chou et al failed to demonstrate this antibody(11), so the species difference of MBP is unlikely to explash the discreponcy in results.

Elevated anti-MBP levels are not specific for MS. Linke provious reports,(5,29) we also found anti-MBP antibodies in other immune mediated neurologic diseases, CNS infections and others (Table 3). In patients with Guillain-Barre' syndrome, 5 of 14 sera and 4 of 11 CSF samples contained antibodies against MBP. Paripheral nerve myelin contains a small amount of MBP, (designated P1), which thought not the major neuritogenic protein in experimental disease(37) but may induce anti-MBP antibodies. The interesting findings are that anti-MBP antibodies are not uncommon in central nervous system infections such as tuberculous meningitis, cryptococcal meningitis, and parasitic diseases. These indicate that anti-MBP antibodies are epiphenomen only occured. Whether these antibodies also play role in pathogenesis or in the severity of these neurologic disease awaitz furthur investigations. As a consequence, anti-MBP antibody testing in patients with equivocal MS adds only little benefit to the diagnosis as the antibody testing possesses low sensitivity and low specificity (serum 32.1% and 81.8%, CSF 20% and 64.2% respectively).

In conclusion, the present study demononstrates that by using porcine MBP and ELISA, we could detect serum and CSF anti-MBP antibodies in 32.1% and 20% respectively in MS patients with exacubations. These antibodies are not specific for MS. Despite numrous attempts to establish a definite diagnostic test for multiple sclerosis, it remains a disease whose diagnosis is based on established clinical criteria. (17,40)