Antigenic expression of LPS from brazilian meningococcal strains, production of monoclonal antibodies as subsidy to epidemiological studies


The profile of antigen expression among meningococci is important for epidemiology surveillance and vaccine development. To this end two new mouse monoclonal antibodies (MAbs) have been produced against Neisseria meningitidis lipopolysaccharide (LPS). The MAbs were reactive against outer membrane antigens and present bactericidal activity. They were tested against different meningococcal strains 118 strains of serogroup A, 66 strains of serogroup C (1972 to 1974) and 293 strains of serogroup B (1992) meningococci by Dot-ELISA. Our results demonstrated that the expression of LPS (immunotypes) in the N meningitidis Brazilian strains studied is heterogeneous. The prototypes and subtypes of B:4:P1.15, B:4:P1.9, B:4:P1.7, B:4:P1.14, B:4:P1.16, B:4:NT and B:NT:NT were detected in N meningitidis B serogroups. The strains C:2a:P1.2 and A:4,21:P1.9 were dominant in the C and A serogroups respectively. FACS analysis showed that the MAbs immunotypes recognized LPS immunotypes on the surface of N meningitidis. The immunotype L 379 was strongly expressed in 90% of N meningitidis B compared with 67% in serogroup C and 18% in serogroup A, whereas L 1 and L 8 were weakly to moderately expressed by 7% and 15% in serogroup B and 3% serogroup A and was not expressed in serogroup C. The importance of establishment a broad set of immunotypes antigens characteristics of the prevalent strain during one epidemic is important for vaccine preparation.

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