INTRODUCTION

Meninococcal disease is a cause of major and lethal meningitis and pneumonia in humans. Meningococcal disease is prevented by a pneumococcal polysaccharide-based vaccine, but its efficacy is inadequate to prevent the disease. Therefore, the development of a new vaccine is needed. In this study, we evaluated the role of exposed sialic acid in the interaction between bacteria and host cells. The survival rate of mice infected with the cssA mutant is significantly increased and the cssA mutant is severely impaired in the meningoencephalitis killing curve.

The role of exposed sialic acid in the interaction between meningococci and epithelium of the blood and CNS was investigated using a mouse model. The results demonstrated that the establishment of meningococcal meningitis was significantly impaired when meningococci were exposed to sialic acid.

In conclusion, meningococcal meningitis is a complex infection process that involves the interaction between meningococci and host cells. Therefore, it is necessary to develop new vaccines that can prevent meningococcal meningitis. The results of this study provide new insights into the role of exposed sialic acid in the meningococcal meningitis pathogenesis and may help in the development of new vaccines.