ABSTRACT

The importance of the technique of autogenous implant of splenic tissue or splenic autotransplant is justified by the high incidence of overwhelming postsplenectomy infection (OPSI). Approximately 80 % of the reported cases of OPSI, are caused by *Streptococcus pneumoniae,* also called pneumococcus, which is a Gram-positive coccus having the human nasopharynx as habitat and considered the principal cause of otitis media, meningitis and pneumonia. In this study we investigate the capacity of animals having undergone splenectomy and autogenous implant of spleen for responding to infection by *S. pneumoniae*. Humoral and cellular immunity were evaluated in BALB/c mice divided into three groups: Autotransplanted (AT), Splenectomized (SP) and Sham (CT). The count of the number of colony forming units (CFU) in the liver and in the lungs showed that the mice of the SP group presented a greater number of bacteria in both organs aside from lower serum levels of IgM, IgG1 and IgG2a anti - *S. pneumoniae*. The presence of splenic fragment induces the production of IL-17A and the recruitment of neutrophils to the liver and lungs of the autotransplanted mice, however the splenectomized mice presented the lowest levels of IL-17A. These data can be related to the CFU in the lungs and liver of the animals. The results obtained suggest that the autogenous implant of spleen restores the splenectomized mouse's capacity for fighting infection with *S. pneumoniae.*

Keywords: Spleen. Splenectomy. Autogenous splenic implant. *Streptococcus pneumoniae.*