Abstract

The National Programme of Control and Eradication of Bovine Brucellosis in Argentina involves the vaccination of female calves between 3 and 8 months of age with B. abortus S19, and elimination of seropositives reactors. Commonly used serological tests are BPA (Buffered Plate Antigen) and FPA (Fluorescence Polarization Assay) as screening and confirmatory tests, respectively. Both detect antibodies to the O-chain (OPS) induced by vaccination or by field strains. Occasionally, false positive reactions were found in healthy adult bovine induced by cross reaction antibodies stimulated by the administration of vaccines composed of Gram negative bacteria. The aims of this work were to study in the mouse model: a) the crossreactivity in diagnosis of bovine brucellosis induced by administration of commercial vaccines that contain Gram negative bacterins and b) the identification of vaccinal strains that induced crossreactivity. In the Experiment I, female Balb/c mice were vaccinated with 9 bovine commercial vaccines. In the second experiment, groups of mice were immunized with Gram negative bacterias (bacterins) contained in vaccines used in this study. As positive control groups, mice vaccinated with 19 strain and other inoculated with B. abortus 544 were included. Periodic bleedings were performed and sera were analized in modified BPA and FPA tests. The results showed that 6/9 vaccines induced a short-term serological response detected only by BPA in a variable percentage of animals per group. On the other hand, the bacteria that induced most persistent serology in both tests were Pasteurella multocida y Mannheimia haemolytica. According to our results, the antibodies induced by vaccines used in this work would not have a significant impact on the diagnosis of bovine brucellosis in the murine model.

Keywords

(Brucella abortus), (Gram negative bacteria), (serological crossreactivity).