Clinical observations, pathology, bioassay in mice and serological response at slaughter in pigs experimentally infected with Toxoplasma gondii

Experimental infections of a total of 47 pigs with tachyzoites of the Toxoplasma gondii RH-strain, tissue cysts of the SSI-119 and R92 strains as well as oocysts of the SSI-119 strain were performed to determine the sensitivity of an indirect IgG-ELISA, using tachyzoite lysate of the RH-strain as antigen. The infections led to a dose dependent moderate clinical affection (inappetence, fever and poor general condition). Pigs infected with 10000 oocysts or with 1/2 mouse brain containing tissue cysts of the SSI-119 strain showed a significant decrease in weight gain compared to uninoculated pigs during the first 2 weeks p.i., followed, however, by compensatory growth during the next 6 weeks. At slaughter 3 to 4 months after inoculation 39/41 (95.1%) of pigs positive by bioassay in mice were seropositive in ELISA: Tissue cysts were not demonstrable by immunohistochemistry. ELISA OD-values obtained by analysis of meat juice from heart muscle and tongue (diluted 1:40) correlated strongly with OD-values by analysis of serum (diluted 1:400) \( r(\text{heart juice}) = 0.942; \ r(\text{tongue juice}) = 0.915 \). Thus, meat juice samples were shown to provide a suitable alternative to serum for serological detection of Toxoplasma infection in pigs.