## ABSTRACT

The major histocompatibility system is a region in the human genome located on chromosome 6. HLA genes encode polymorphic cell-surface glycoproteins which are primarily responsible for presentation of self and non-self antigens to T cells. When the T lymphocyte recognizes the MHC-peptide complex as foreign, it activates effector components of the innate and adaptive immune system. Therefore, mismatched HLA antigens can lead to a strong immune response against the donor's tissue. HLA laboratories support transplant programs by evaluation the HLA matching between patients and their potential donors and, based on these data, assist in the evaluation of the risk of rejection and eventual immunological complications after transplantation.

The aim of this thesis is to describe the significance of the major histocompatibility complex for the occurrence of cellular and antibody-mediated rejection after solid organ transplantation and discuss the relationship between the degree of HLA matching and graft survival outcomes.

## Key words

HLA, organ transplantation, rejection