INFECTIOUS COMPLICATIONS IN CHRONIC RENAL FAILURE

Infections represent a serious problem in chronic kidney disease (cohort and they are) associated with signifficant morbidity and mortality. The thesis originated in the nephrology division of the Department of Internal Medicine I., Charles University Teaching Hospital and Medical Faculty in Pilsen, an institution with a long standing research activity in the field. In the theoretical part of this work, a general summary of infectious complications in chronic kidney disease population is presented. The other part of this work presents results of our research dealing with pharmacoeconomical aspects of cytomegalovirus infection and finally our results in the field of influenza vaccination.

The Aim of the first presented work was to evaluate the cost impact of four different strategies for prevention of cytomegalovirus infection after renal transplantation. We provide post hoc analysis of 2 randomized studies performed in our department and calculating direct CMV-related expenses using valacyclovir prophylaxis, ganciclovir prophylaxis, preemptive vlaganciclovir treatment and deferred therapy. To simulate ihe impact of varying prices of prharmacotherapy or diagnostic procedures, a sensitivity analysis was performed. With respect to our results, valacyclovir prophylaxis is the most cost-effective strategy compared with ganciclovir prophylaxis, valganciclovir preemptive therapy or deferred therapy. Deferred therapy is the most expensive strategy for CMV management due to excessive burden of CMV disease under current reimbursment policy and also in all modelled situations.

In the second presented work, results of our research evaluating influenza vaccine immune response in hemodialysis patients and control group are reported. We present a multicentric study investigating influenza vaccine immune response and its relation to inflammatory and iron metabolism markers in hemodialysis patients and control group without chronic kidney disease.

Despite lower intensity of vaccination immune response in hemodialysis patients, no signifficant diferrence was found in postvaccination seroprotection in hemodialysis patients compared to control group. Influenza vaccination in hemodialysis patients remains a reasonable tool for influenza prevention. Our results show low albumin and trensferrin levels, high interleukinu 6 and ferritin levels as potential markers of poor vaccination immune response. In these patients, alternative vaccination strategies should be considered.