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ALEMTUZUMAB AS A TRANSPLANT INDUCTION AGENT

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Background

There have been a number of immunosuppressive agents introduced in renal transplantation in recent years. There is limited evidence to describe the efficacy and safety of the different strategies or regimens used. Alemtuzumab(AL) or campath, a humanized anti CD-52 antibody has been reported by some centers as a promising agent apart from its cost effectiveness.

Methods

A systematic review was carried out to evaluate the safety and efficacy of this monoclonal antibody. EMBASE, MEDLINE and Cochrane databases were searched. Only randomised controlled trials where AL was used as induction agent with a minimum sample size of 40 patients were included. Studies which did not directly compare AL with another induction agent or agents were excluded. Main outcomes measured were acute rejection rate, infection rate and graft survival.

Results

Five studies were included in the review. More than one induction agents were used for direct comparison. Subgroup analysis was therefore carried out. The analysis indicates AL is effective and at least equivalent in reducing acute rejection in the first year after renal transplant but there is significant heterogeneity between studies. The follow up periods reported were of short to medium term.

Figure 1: Rejection Rate(Campath vs IL2A)

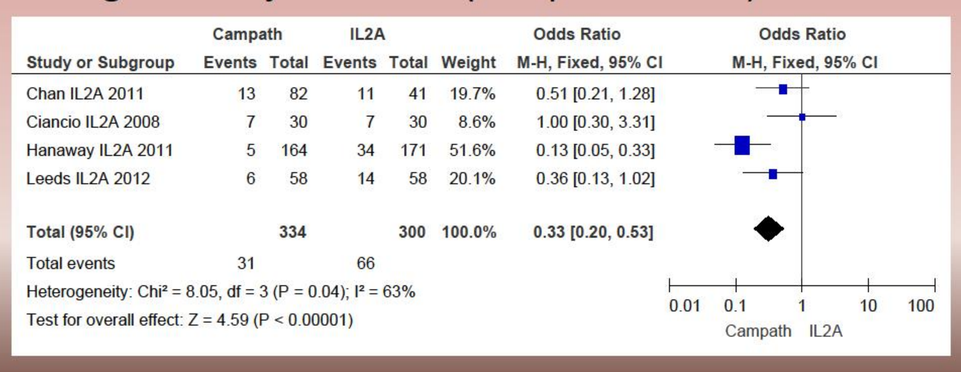


Figure 2: Rejection Rate (Campath vs ATG)

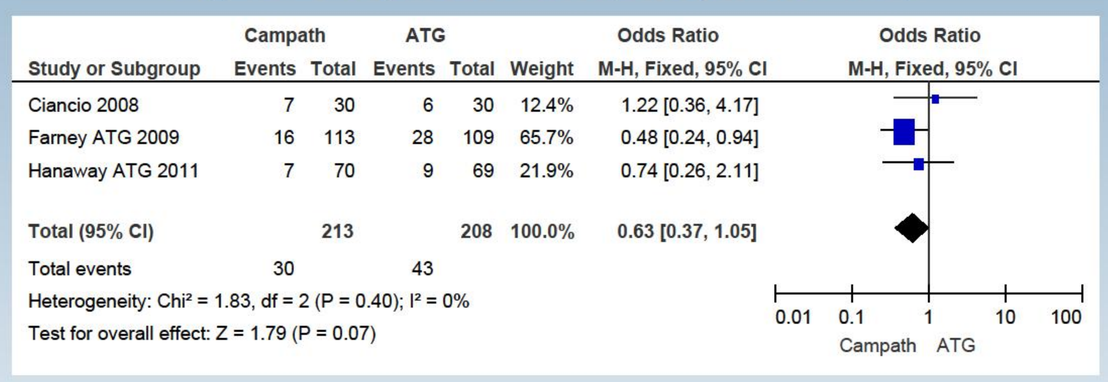


Figure 3: CMV Infection Rate (Campath vs ATG)

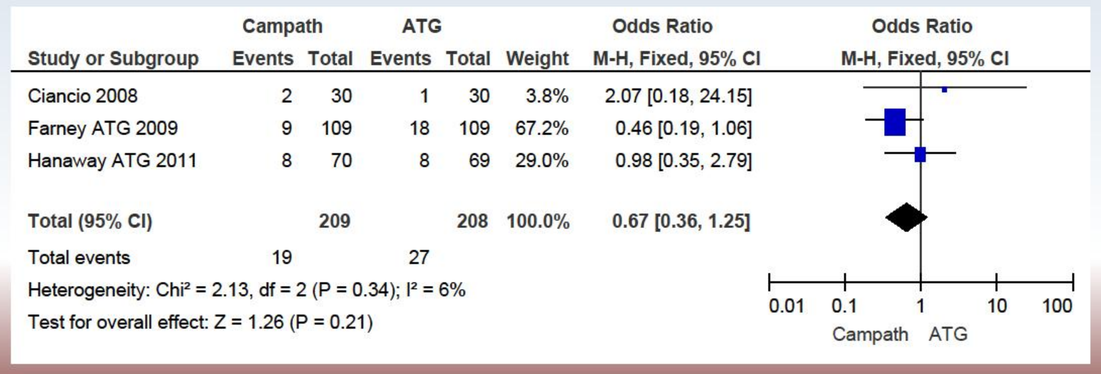
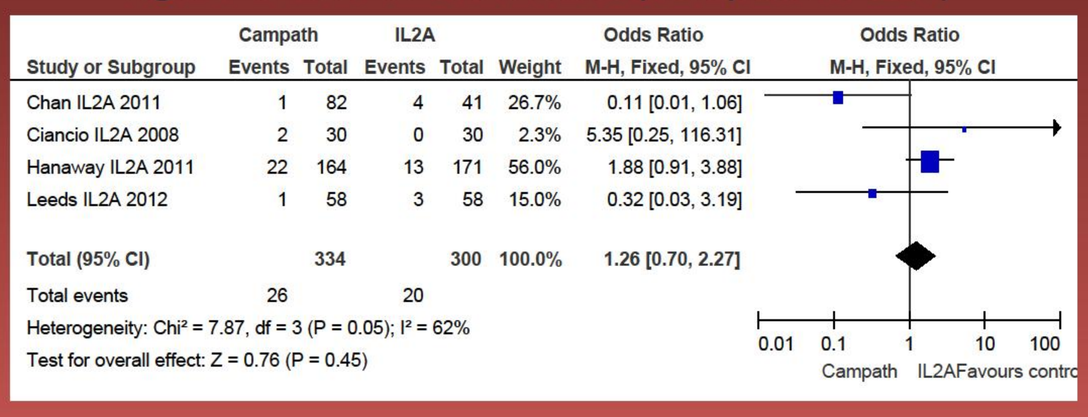


Figure 4: CMV Infection Rate (Campath vs IL2A)



Summary

Most studies have reported AL as a safe and effective agent especially for patients with low immunological risks. It has repeatedly been successfully used to reduce acute transplant rejections at 12 to 24 months. However, there remain unanswered questions of the long term use of this monoclonal antibody from the available controlled trials. Some of these studies were under powered and contained a number of confounders. More studies with larger sample sizes and longer follow up periods are necessary to further ascertain its safety and efficacy. The substantial economical impact and the possibility of steroid avoidance regimens are likely to generate further interest. Several well designed studies are underway.

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