**DIFFERENCES IN META-ANALYSES RESULTS IN CARDIAC CELL-BASED REGENERATIVE THERAPIES**

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*Objectives*. We have investigated the discordant results between several meta-analyses of clinical studies involving human cardiac cell-based therapies.

*Background*. Publication-based meta-analyses of clinical studies including patients with recent acute myocardial infarction (AMI) and randomized to either in placebo group, or to receive intracoronary autologous stem cells were in agreement, that this type of regenerative therapy successfully increases the global left ventricular ejection fraction (EF). The ACCRUE (Meta-Analysis of Cell-based CaRdiac stUdiEs), the recently published meta-analysis, including individual patient data (IPD) however, revealed that intracoronary administration of regenerative cells has no effect on the left ventricular performance shortly after AMI.

*Methods and results*. We have compared the results of all meta-analyses (n=17) published until 2015, including randomized studies with intracoronary cell therapy in recent AMI. In contrast with the IPD-based analysis, aggregate-data based meta-analyses resulted in different outcomes regarding the clinical endpoints, such as mortality or combined adverse event. All publication-based meta-analyses showed moderate but significant treatment effect (increase in EF between 2.07%-4.21%) as compared to placebo, in contrast with the ACCRUE (mean difference of EF of 0.9% between groups, not significant). In contrast with aggregate-data based meta-analyses, ACCRUE could not find any confounding factors influencing this negative results. ACCRUE revealed too, that also the patients in the placebo group with low baseline EF show more improvement at the 1-year follow-up, similar to the cell-treated patients. Comparing the different kind of meta-analyses, aggregate-data based meta-analyses have the advantage to include all published studies with large number of patients and studies, albeit the data have large heterogeneity, in contrast with the IPD-based meta-analysis.

*Conclusions*. Each types of meta-analyses have their role in assessment of cardiac cell-based therapies, if no sufficient amount of data of randomized patients in randomized studies exist, but the IPD-based meta-analysis should be regarded as gold-standard in meta-analytic approaches.