

S462

Symposium

Observational studies

Randomised clinical trials are difficult to perform in the area of multidrug-resistant bacteria. Well designed and performed observational studies, particularly cohort studies, may provide important (and many times, the only) clinical information in this field. Because observational designs are subject to biases, it is necessary to consider several aspects to improve the quality of evidence provided by them. Hypothesis should be pre-fixed to avoid misinterpretation of casual results. Outcome variable should be appropriately selected and defined, so that they answer the research question. When retrospective assessment is used, the quality of the data source must be particularly taken into account. All variables potentially influencing the choice among treatment alternatives must be collected. Variables definition, appropriate collection, and reliable source are critical. As regard the analysis, control for confounders must always be included. This is usually performed by multivariate modeling, but advanced methods such as propensity score-base analysis and instrumental variables may offer improved estimates of the effect of a specific treatment. Not frequently, low number of included patients challenges the analysis and interpretation; thus, the statistical power of the study must always be considered.