Efficacy and Safety Evaluation on Incrementally Modified Drug

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From 1980s we are used to 'Modified Drug or Incrementally Modified Drug'. The "Incrementally Modified Drug" means the drug that does not have a 'new chemical entity' but has some modification from previously approved drugs. The "Incrementally Modified Drug (IMD)" includes the improved drug in physico-chemical properties, salt changed drug, prodrug, polymorphism of drug and racemic switched drug, etc. The drug products in category of 'Formulation Improvement' are increased in bioavailability of active component, therefore their dose required for the same effect can be reduced. The 'salt changed drug products' are drug products that their salts are changed to different salts from previously approved drug or to base. Recently 'racemic switched drug products' have been actively developed, especially a single stereoisomer is isolated from the approved racemate. The purpose of 'racemic switched drug products' generally is to reduce the adverse effect and the administration dose, but to maintain the same efficacy. Last October KFDA has revised the "Regulation on Safety and Efficacy Evaluation of Drug Products". Today I will present about the revised regulations, especially focus on regulations related to 'Incrementally Modified Drug'. According to the revised regulation, 'salt changed drugs' are newly categorized in 3 groups. The 'racemic switched drug products' are also divided into 2 groups. In case that S-isomer has been previously approved and R-isomer has been newly developed, the R-isomer product is considered as new chemical entity. However, if R-isomer is isolated from racemic compound, some toxicological data about R-isomer can be waived. In case of modification of administration rout, some toxicological data can be waived according to the extent of parent drug exposure in the body. The regulation related to new combination products has been revised. According to the revised regulation, if there are evidences about no drug-drug interaction, pharmacological data, toxicological data and clinical data of combination product can be waived. Usually drug-drug interaction can be elucidated in cross-over designed phase 1 study. In this symposium I will show current KFDA's viewpoint on IMD products, and KFDA will listen to industries's and academia's opinions.