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Pharmacodynamic studies of Self-Nanoemulsifying Drug Delivery Systems for the oral administration of Rosuvastatin calcium

E Gundogdu

Ege University, Turkey

Self-Nanoemulsifying Drug Delivery Systems (SNEDDs) are mixtures of oils, surfactants and co-surfactants. Several studies have shown that compounds which have low permeability are better absorbed when administered in SNEDDs. SNEDDs possess high solubilization capacity, more stable physicochemical properties and easier preparation process. Rosuvastatin (RS) is a synthetic lipid-lowering agent and the oral bioavailability of RS is 20% because of low aqueous solubility due to its crystalline nature and is extensively metabolized by liver via oxidation, lactonization, and glucuronidation. Among these approaches, SNEDDs were chosen to evaluate poorly absorbed drug from the gastrointestinal tract such as RS after oral delivery. After development of RS-SNEDDs, *in vivo* pharmacodynamic studies were done. Two groups of Yorkshire pigs were used and cross design was applied to perform study. Four (4) pigs were allocated to each group. SNEDDs and commercial formulations were administered at the same doses (20 mg/kg) during 7 days. At the beginning and end of study, blood samples were withdrawn from ear vein and analyzed biochemically (SGPT, SGOT, HDL, LDL, urea, creatinine, triglyceride). According to the obtained results, RS-SNEDDs is as safe as the commercial RS. Furthermore, RS-SNEDDs is more efficient than the commercial formulation. These findings confirmed similar safety profile of SNEDD formulation with traditional pharmaceuticals formulation of Rosuvastatin.

The impact of generic entry and price competition in Jordanian public health sector

Ibrahim Alabbadi

University of Jordan, Jordan

Objective: Generics are widely considered a major tool to control escalating drug's expenditures. The objectives of this study were to evaluate the impact of generic participation on the bidding prices of originators participated in annual tenders in Jordan (2009–2011) and role of local generics in reducing pharmaceutical expenditures.

Methods: Data were collected from the Jordan Joint Procurement Department (JPD) website. The difference between bidding prices of originators before and after generics participation was estimated. All prices evaluated in this study were post-patent price. Savings associated with local Jordanian generics was estimated by comparing the price of originators competing against winning local Jordanian generics.

Results: A total of 17 tenders were reviewed between June 2009 and July 2011. Generic participation in the tendering process lowered the bidding prices of the originators. This contributed to saving of 77 million JDs in 2010 and 15 Million JDs in 2011. The bidding prices of originators on average reduced by 11% when competed with generics. Local generics contributed to significant reduction in pharmaceutical expenditures, this contributed to savings of 25 million JDs in 2009–2010.

Conclusions: Generics entrant resulted in almost 10% reduction in originator competitors. The substantial savings contributed by local generics leads focus on adapting generic substitution and switching private sector purchases to higher generic uptake recommending the policy makers and local manufactures to maintain high production quality, increase confidence in generics and promote their acceptance by professionals and patients.

i.abbadi@ju.edu.jo