Description of the entire process of Sodium Diclofenac different pharmaceutical forms manufacturing processes from API synthesis till finished product. Demonstration through laboratory tests their advantages and differences regarding bioavailability

Asseel Thaer Ibrahim Al-Dabbagh, BS,[1], Ana Maria Ayvazian Davidian[1]*

*anna.ayvazyan@eiu.am

Eurasia International University, Department of |Pharmacy, Yerevan, Armenia

Background. Diclofenac sodium is non-steroidal anti-inflammatory drug (NSAIDs) recommended for use in painful and in inflammatory rheumatic and certain non-rheumatic conditions. Its available in many dosages form which can be given orally, rectally, topically and intramuscular. Sodium diclofenac has short half-life which limits the potential for drug accumulation. The aim of this research is to demonstrate the bioavailability of different pharmaceutical forms (tablet, capsule, suppository) of sodium diclofenac through laboratory tests, dissolution is directly correlated with the absorption, different pharmaceutical forms have different dissolution rate, as faster the dissolution the absorption is also faster.

Methods. It was used spectrophotometer BK-UV1800PC (Biobase, China). The amount of Diclofenac present in the sample was detected based on UV absorbance at the wavelength of maximum absorbance at about 209 nm, in comparison to the standard solution using dissolution medium (Phosphate buffer, pH 7.5) as a blank.

Results and discussion. In accordance with the results dissolution of the capsules was occurring faster in comparison with the suppository as well we tablet type of Diclofenac formulations. Based on the spectrophotometric results suppositories were be dissolving during 30 minutes in blood stream, whereas in vitro this formulations of Diclofenac weren't dissolved. In vitro in contrast to tablet capsular formulations Diclofenac were dissolved for 56%.

Conclusion. In vitro dissolution represents the absorption process. Dissolution is as fast as absorption. Dissolution is directly correlated with the absorption. Different Pharmaceutical Dosage forms have different dissolution rates. At the laboratory (in vitro) performed dissolution test was able to demonstrate some idea about how the absorption is going on in each pharmaceutical form.

Key words: Diclofenac sodium, capsule, tablet, suppository, in vitro, dissolution.

Justification and demonstration through experimental test and literature, the main differances on coated and uncoated tablets.

Mohammed K. Y. Al Hasani, BS,[1], Ana Maria Ayvazian Davidian[1]*

*anna.ayvazyan@eiu.am

Eurasia International University, Department of |Pharmacy, Yerevan, Armenia

Background. An important preface to any discussion on coating must be—Why coat tablets? Since a broad range of pharmaceutical oral solid dosage forms are coated, important reasons include the following: 1. protecting the drug from its surrounding environment (particularly air, moisture, and light) to improve stability; 2.masking unpleasant taste and odor; 3. making it easier for the patient to swallow the product; 4. improving product identity, from the manufacturing plant, through intermediaries, and to the both healthcare workers and patients; 5. facilitating handling, particularly in high-speed packaging/filling lines, and automated counters in pharmacies, where the coating minimizes cross-contamination due to dust elimination; 6. improving product appearance, particularly where there are noticeable visible differences in tablet core ingredients from batch to batch; 7. reducing the risk of interaction between incompatible components. This would be achieved by using coated forms of one or more of the offending ingredients (particularly active compounds); 8. Improving product robustness because coated