alkalimetry in determination of ascorbic acid from samples that contain additional acids, which do not interfere with the oxidation of ascorbic acid by iodine.
Key words: Ascorbic acid, alkalimetry, iodometry, food supplements.

412. APPLICATION OF DISSOLUTION TEST IN RESEARCH OF THE IN VITRO BIOAVAILABILITY OF DRUGS

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Introduction. In the pharmaceutical industry, dissolution may be defined as the amount of drug substance that goes into solution per unit time under standardized conditions of liquid/solid interface, temperature and solvent composition. Dissolution is also the only test that measures in vitro drug release as a function of time. Dissolution of drug in a solid dosage form (e.g. tablet or capsule) is composed of at least two consecutive steps as well; liberation of solute/drug from the formulation matrix followed by dissolution of the drug in the liquid media. Thus, in order to achieve dissolution of drug from a dosage form, the cohesive properties of the formulated drug and intrinsic physicochemical properties of the drug molecule play a key role. Prediction of in vivo behavior often requires the use of in vitro dissolution methods reflecting the in vivo gastrointestinal conditions.
Aim of the study. Evaluation of the impact of the dissolution test and of the determinants in the research of the bioavailability of drugs.
Materials and methods. 83 abstracts and articles from systematic research in the Cochrane Electronic Library and MEDLINE databases.
Results. Following the analysis of the evaluated bibliographic sources, the in vitro release from the analyzed formulations was found to be dependent mainly of the composition of the dissolution media. Selection of the most appropriate medium for routine testing is based on stability of the analyte in the test medium. For some water-soluble drugs, pH of the dissolution medium has less effect on dissolution, but surfactants added to the dissolution medium will increase drug solubility significantly. Even though the media simulate most relevant characteristics, such as concentration of solubilizing substances, buffer capacity, pH and the ability of drugs to dissolve, they are not a one-to-one copy of gastric or duodenal juice. The universal analytical separation method with acceptable selectivity and sensitivity in most analyzed sources is high performance liquid chromatography (HPLC), with transfer to the more efficient ultra-performance liquid chromatography (e.g. UPLC (Waters)). HPLC is often the method of choice even though it is less time efficient than UV/VIS due to the fact that during early phase development multiple formulations and strengths are screened and potential interferences from the formulation matrix or medium or even degradation of the active can be separated easily by HPLC.
Conclusions. The dissolution test is a valuable *in vitro* technique for predicting the in vivo behavior of pharmaceutical forms with peroral administration. All the factors of influence on the transfer process are in strict dependence on the physicochemical properties of the active principles and of the excipients.
Key words: Dissolution test, *in vitro* bioavailability.