Aim of the study. Systematization of data about the methods and techniques for determining the ototoxicity of the drug by advanced bibliographic study.
Materials and methods. 167 abstracts and scientific articles from the Cochrane Electronic Library and the MEDLINE database.
Results. The bibliographic study highlighted three basic primary approaches in the monitoring of drug ototoxicity (87% of sources): conventional audiometry, high frequency audiometry and ototacoustic emissions. Another technique (present in about 13% of the investigated materials), such as the auditory brain response, can be used for a particular patient, but it is not a standard monitoring technique, although it can also be a criteria for detecting changes in auditory system.
Conclusions. A variety of methods exist for monitoring ototoxicity of drug substances in the local therapy of auricular pathologies. Some are designed either for the early detection of ototoxicity and some in a simple evaluation for obtaining additional information about ototoxic changes and and its site of lesion.
Key words: ototoxicity, monitoring, methods, drug substances

376. THE EVALUATION OF SOME TECHNIQUES OF THERMAL ANALYSIS AT THE PREFORMULATION STAGE OF COMBINED DRUGS

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Introduction. Thermal analysis includes several analysis techniques, which measure an analytical signal of the sample at a certain temperature. The analysis is based on thermogravimetric curves. The instrument used in thermal analysis consists of a microbalance surrounded by a electrically heated furnace equipped with a thermocouple to monitor the temperature.
Aim of the study. is to assess the use of of thermo-gravimetric and differential scanning calorimetry methods at the preformulation stage of combined drugs.
Materials and methods. Electronic databases: Medline, Cochrane, Embase and Springer. Also, the search was conducted by using printed, pharmaceutical and chemical journals. It was analyzed 150 bibliographic sources.
Results. In most of the researches (45%), thermogravimetric analysis was used in order to determine the decomposition temperature of the individual active substances and also from the mixtures of active substances with excipients or with other active substances. Also, most frequently (53.3%), thermogravimetric analysis has been combined with other techniques such as: differential scanning calorimetry. Less researches (1.7%) applied thermogravimetric method to determine water content and volatile substances.
Conclusions. Thermogravimetry and differential scanning calorimetry are physico-chemicalmethods which are widely used for compatibility research of active substances and excipients at the preformulation stage of drugs.
Key words: thermogravimetry, preformulation, combined drugs

377. APPLICATION OF IR SPECTROSCOPY FOR EVALUATION OF COMPATIBILITY OF DRUG SUBSTANCES WITH EXCIPIENTS

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Introduction. The researchers conducted on interactions between different drug substances combined in the same dosage form are fundamental to avoid the instability of the finished medicinal product. IR spectroscopy is one of the oldest physical methods, being one of the most suitable for obtaining absorption spectra, which are then applied to determine the compatibility by using electromagnetic radiation to interact with the substances and to investigate, therefore, certain characteristics of the sample depending on the wavelength.
Aim of the study. The bibliographic evaluation of IR techniques applied for the Exploring of compatibility of drug substances with excipients.
Materials and methods. 68 abstracts and articles from systematic research in the Cochrane Electronic Library, MEDLINE databases.
Results. Based on the absorption of infrared radiation by substances, IR spectroscopy provides sufficient information about the possible interactions between the active substances and excipients of a multicomponent dosage form. In all bibliographic sources, the Fourier Transformation Infrared Spectroscopy (FTIR) method is associated and complementary with other techniques for compatibility determination such as Differential Scanning Calorimetry (DSC), X-ray diffraction. The study of possible interactions between drug substances and excipients by using FTIR is performed by the KBr pellet method, where the IR spectra are first recorded individually, then in binary mixtures in the scanning range from 4000 to 500 cm-1. The obtained spectra are indicative for the nature of chemical bonds in the sample test and for the mixtures of substances, that can be used to identify the chemical structures or composition of the investigated sample. Overlapping peaks of substances and excipients in mixtures are analyzed and compared to peaks of individual spectra.
Conclusions. It has been found that IR spectroscopy is a common, important and mandatory technique in assessing the compatibility of drug substances with excipients.
Key words: IR spectroscopy, compatibility, drug substances, excipients

378. COMPARISON OF FLUCONAZOL CAPSULES DISSOLUTION PROFILES

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Introduction. The dissolution test is the most used physico- chemical test in the evaluation of the quality of the medicinal product to assess the in vitro-in vivo correlation. In the development of drug formulation, is it used to select optimal composition, study of stability and physico-chemical parameters required in the technological process, and in quality control for verifying the reproducibility of in vitro release of series launched on the pharmaceutical market.
Aim of the study. is to investigate the dissolution profile of Fluconazole-RNP 50 mg capsules compared to another recognized manufacturer (Mycosyst 50 mg Gedeon Richter Ltd. (Hungary) capsules.
Materials and methods. "Shimadzu" HPLC Chromatograph with RID-10A Detector; electronic analytical balance; pH meter Consort C861; Fuconazole-RNP and Mycosyst Gedeon Richter capsules; acetonitrile; methanol.
Results. The dissolution test demonstrated the similarity of the dissolution profiles of the compared products.
Conclusions. All media used to compare the dissolution profiles of fluconazole capsules in the dissolution test show that the similarity factor (f2) is at least 50, which demonstrates the similarity of the fluconazole-RNP bioavailability compared to Mycosyst.
Key words: dissolution test, bioavailability, fluconazole, Mycosyst, similarity.