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STUDY OF THE INFLUENCE OF THE RESIDUAL MOISTURE CONTENT OF THE TABLET MASS ON THE QUALITY INDICATORS OF "UROLEXAN-F" TABLETS

Akromova M.O., Sharipova S.T., Maulenbergenova G.

Tashkent Pharmaceutical Institute
e-mail: saodat.67@list.ru

Abstract. Currently, the creation of new dosage forms based on medicinal plants is an urgent task of modern pharmacy. And the development of easy-to-use, stable dosage forms based on local raw materials makes it possible to expand the majority of ready-made dosage forms with less toxic preparations of plant origin [1].

Hypertension (arterial hypertension) is a common worldwide disease that is most annoying for especially older people. Edema is a frequent companion of hypertension, but the use of diuretics in this case is associated not only with their elimination. The appointment of combined medications for hypertension is a key point of modern treatment and it is better to choose fixed combinations. Pressure pills, which are fixed combinations, usually contain rational drug combinations [2].

Purpose: The purpose of this work was to study the influence of residual moisture on the quality indicators of "Urolexan-F" tablets.

Methods: When developing the technology of tablet dosage forms, in particular, the tablet dosage form "Urolexan-F " we are studying that the amount of residual moisture in the pressed mass is one of the important factor. In order to study the effect of the amount of residual moisture on the quality indicators of Urolexan-F tablets, a pressed mass was prepared by wet granulation, the optimal composition, which was given in previous works. During the drying process, samples were taken from this mass at certain intervals and from the remaining part of the samples, tablets were obtained. The content of residual moisture in the weight of each of the samples of the pressed mass was determined by the method of drying with infrared rays using an infrared moisture meter of the instrument called "Kett" under the same conditions. At the same time, the content of residual moisture in the attachments of individual samples and in the samples themselves too, of the pressed mass was 7.5; 7.0; 6.3; 6.0; 3.9; 3.1 and 2.4% in representative. Next, model tablets were pressed from each samples on a manual hydraulic press under standard conditions. The determination of the optimal moisture content of the granulates was carried out according to the following method. According to the recommended recipe, the granules of the drug were made. The pellets were dried in a drying cabinet at a temperature of 35°C and sifted through a sieve with a hole size of 1 mm. Portions of 20 g pellets were placed separately in 5 glass cups (Petri dishes). Four of them were stored in four desiccators; each of them contained a saturated solution of a substance that creates a constant relative humidity. Under these conditions, the pellets were kept for 48 hours. The fifth batch of pellets was placed for 48 hours in a thermostat at a temperature of 40° C. After 48 hours, a sample was taken from each batch and the moisture content was determined by drying it in a weighing bottle to a constant weight. At the same time, tablets were pressed from each batch of pellets on a hydraulic press. The tablets obtained after pressing were tested for fracture and abrasion strength and disintegration on devices called ERWEK gmbh. The optimal humidity is the humidity at which the tablets have the greatest strength at all values of the pressing pressure.

Results: The obtained data showed that the highest values of the resistance of tablets to crushing are in the range of 70-85 N with a residual moisture content of the tablet mass of 4.5–7.5%. Given that the composition of the drug includes components of plant origin that are sensitive to moisture, the boundaries must be optimized to (3.0-4.0%). Higher moisture values led to the production of low-quality tablets (the appearance of sticking to the press tool). On the basis of the conducted studies, auxiliary substances were selected and the composition of the drug in the form of tablets based on plant extract with the use of wet granulation was developed. The resulting tablets were evaluated for such qualitative indicators as appearance, compressive strength and disintegration. The analysis of the technological characteristics of the tablet masses of the model compositions and the quality of the obtained tablets showed that all the compositions have excellent flowability, good bulk mass, meet the requirements for disintegration and mechanical abrasion strength. The flowability of the tablet mixture without vibration was 8.15±0.45g/s, the bulk density without compaction was 0.499±0.006 g/sm^3, the bulk density with compaction was 0.599±0.024 g/sm^3. The

mechanical compressive strength and disintegration of the obtained tablets were 51.5±4.0 N and 69.8±4.3, respectively. At the same time, tablets obtained from a sample of the pressed mass with a residual moisture content of 3.9%, according to the above-listed estimated quality indicators, met the requirements of the NTD more than tablets obtained from samples of the pressed mass with a different content of residual moisture.

Conclusions: To conclude, for the investigated pressed mass "Urolexan-F", the optimal residual moisture was determined experimentally, which was 3.9%.

References:

1. Andrievskaya S. A. Combined therapy of arterial hypertension-a challenge to the future. – 2013. – № 7(173). – P. 41-44.
2. Derzhavna pharmacopoeia Ukrainy / Derzhavna Trutaev I. V., Strilets O. P., Strelnikov L. S. Study of the specific activity of a new combined antihypertensive drug // Zaporozhye medical Journal-2010. - Vol. 12, no. 1. - p. 34-36.
3. Kachalina, T. V. Development of technology for obtaining solid dosage forms containing plant extracts: abstract of the PhD thesis / T. V. Kachalina.- M,2005. – 26 c.

ИННОВАЦИИ – КЛЮЧ К РАЗВИТИЮ ФАРМАЦЕВТИКИ

Алиева Н.М., Расулева М.Р.

Ташкентский фармацевтический институт
e-mail: nodiraaliyeva23@gmail.com

Актуальность темы: Область человеческого знания условно делится на техническое и нетехническое, связанное с жизнедеятельностью живых организмов и систем. Разработки биотехнических систем и их направлений, использование результатов в их развитии и эксплуатации являются инновационными технологиями современной науки. В настоящее время работает формула: Лекарственный препарат на рынке = лекарственное средство в лекарственной форме + информация. При этом эффективность системы здравоохранения в целом определяется объективностью и достоверностью используемой информации, а в отношении лекарственных средств – в особенности.

Цель исследования: Рассмотреть информационные технологии, которые дадут фармацевтическим компаниям возможность перейти от традиционного подхода к лечению к более эффективным и выгодным целенаправленным терапевтическим решениям, включающим в себя диагностику, лекарственные средства, оборудование и услуги поддержки для пациентов с различными заболеваниями.

Материалы: Информационные технологии важнейший фактор трансформации фармацевтической отрасли. Ключом к такой трансформации станут информационные технологии. Жизненно важным фактором этого преобразования станут следующие технологии:

• Grid-технологии, позволяющие эффективно использовать вычислительные ресурсы настольных ПК и серверов браться за такие задачи, как скрининг на совпадение ДНК.

• Благодаря прогностическому биомоделированию, фармацевтические компании получат возможность существенно сократить количество лабораторных экспериментов, затрачиваемых на выявление потенциальных лекарственных средств. Построением компьютерных моделей реагирования клеток на химические воздействия занимается целый ряд исследовательских организаций, включая Центр клеточной и вирусной теории университета Индианы.

• Миниатюрные устройства индивидуального слежения, мобильные телекоммуникационные средства и беспроводные технологии в будущем изменят подходы к разработке лекарственных средств и оказанию услуг здравоохранения, упростив доставку и сбор биологических данных в реальном времени вне стен клиники. Это означает возможность контролировать состояние пациентов и управлять им; принципиально новые возможности для испытания новых лекарств; возможность оказания услуг здравоохранения в любое время и в любом месте. Ряд компаний, включая Philips Medical, уже разрабатывают интеллектуальную «биомедицинскую одежду», а компания Bang & Olufsen создала упаковку для таблеток, которая сама напоминает пациенту, что пришло время при-