

## COMPARISON OF THE LENGTH OF THE MORPHOMETRIC INDICATORS OF THE LIVER UNDER THE INFLUENCE OF ANTI-INFLAMMATORY DRUGS (PARACITAMOL, ASPIRIN, IBUPROFEN, DEXAMETHASONE) WITH THE NORM

**Usanov Sanjar Sadinovich**

PhD, Head of the Department of Clinical Anatomy,  
Samarkand State Medical University

**Khidirov Ziyadulla Erkinovich**

Assistant teacher of the Department of Human Anatomy,  
Samarkand State Medical University

**Abdikholikova Nastarin Abdivali kizi**

2nd year student of the Faculty of Generale Medicine,  
Samarkand State Medical University

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### ABSTRACT

*This article discusses the comparison of the length of morphometric indicators of the liver with the norm under the influence of anti-inflammatory drugs (Paracetamol, Aspirin, Ibuprofen, Dexamethasone). It provides information on the study and assessment of the normative morphological indicators of the liver, the identification and assessment of the characteristics of morphological changes in the liver parenchyma under the influence of drugs. diseases of the body at the time of examination.*

## СРАВНЕНИЕ ДЛИНЫ МОРФОМЕТРИЧЕСКИХ ПОКАЗАТЕЛЕЙ ПЕЧЕНИ ПОД ДЕЙСТВИЕМ ВОСПАЛИТЕЛЬНЫХ ПРЕПАРАТОВ (ПАРАЦИТАМОЛ, АСПИРИН, ИБУПРОФЕН, ДЕКСАМЕТАЗОН) С НОРМОЙ

**Усанов Санжар Садинович**

PhD, Заведующий кафедрой Клинической Анатомии  
Самаркандского государственного медицинского университета

**Хидиров Зиядулла Эркинович**

Ассистент кафедры Анатомии Человека  
Самаркандского государственного медицинского университета

**Абдихоликова Настарин Абдивали кызы**

Студент 2 курса Лечебного факультета

Самаркандского государственного медицинского университета  
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### ABSTRACT

*В статье рассматривается сравнение морфометрических показателей длины печени с нормой под влиянием противовоспалительных препаратов (Парацетамол, Аспирин, Ибупрофен, Дексаметазон). Приведены сведения, основанные на анализах, по изучению и оценке нормальных*



Аспирин,  
Дексаметазон.

Ибупрофен,

морфологических показателей печени, а также по выявлению и оценке особенностей морфологических изменений паренхимы печени под влиянием лекарственных препаратов.

## YALLIG'LANISHGA QARSHI DORI VOSITALAR (PARASITAMOL, ASPIRIN, IBUPROFEN, DEKSAMETAZON) TA'SIRIDA JIGARNING MORFOMETRIK KO'RSATGICHLARI UZUNLIGINI NORMA BILAN SOLISHTIRISH

**Usanov Sanjar Sadinovich**

Samarqand davlat tibbiyot universiteti Klinik Anatomiya kafedrası mudiri, PhD

**Xidirov Ziyadulla Erkinovich**

Samarqand davlat tibbiyot universiteti Odam anatomiya kafedrası assistenti

**Abdixoliqova Nastarin Abdivali qizi**

Samarqand davlat tibbiyot universiteti Davolash ishi fakulteti 2-kurs talabasi

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morfologiya,

Parasitamol,

Ibuprofen,

### ABSTRACT

*Ushbu maqolada yallig'lanishga qarshi dori vositalar (Parasitamol, Aspirin, Ibuprofen, Deksametazon) ta'sirida jigarning morfometrik ko'rsatkichlari uzunligini norma bilan solishtirish to'g'risida fikr yuritilgan. Unda jigarning me'yoriy morfologik ko'rsatkichlarini o'rganish va baholash, dori vositalari ta'sirida jigar parenximasidagi morfologik o'zgarishlarning xususiyatlarini aniqlash va baholash borasida tahlillar asosida ma'lumotlar berilgan.*

**Introduction.** In domestic literary sources, polypharmacy is defined as the simultaneous use of many drugs, including their unjustified use. In foreign literature, the term "polypharmacy" is used (polypharmacy, in Greek, poly-many and apteka-drug). In medical dictionaries, polypharmacy is "mixing several drugs in one prescription", "using several drugs to treat one or more diseases"; this phenomenon is often observed in elderly patients".

**Relevance.** The Decrees of the President of the Republic of Uzbekistan No. PF-6110 dated November 12, 2020 "On measures to introduce fundamentally new mechanisms into the activities of primary medical and sanitary care institutions and further increase the effectiveness of reforms in the healthcare system" and No. PF-60 dated January 28, 2022 "On the Strategy for the Development of New Uzbekistan in 2022-2026", Resolutions No. PQ-4887 dated November 10, 2020 "On additional measures to ensure healthy nutrition of the population" and No. PQ-4891 dated November 12, 2020 "On additional measures to ensure public health by further increasing the effectiveness of medical preventive work" and other regulatory legal acts related to this activity provide specific guidance on the implementation of the tasks set out in served at a high level.

This is due to the increased interest in the problem of drug interactions and the importance of studying the mechanisms of pharmacological effects and the risk of adverse drug reactions with the combined use of anti-inflammatory drugs.



The presented data show that currently, combating polypharmacy with anti-inflammatory drugs is one of the important tasks in providing medical care to patients of all ages.

This necessitates the development of measures aimed at the most effective and safe use of drugs in the treatment of these patients, improving the quality of medical care and reducing the number of drug reactions. Statistical data show that polypharmacy with anti-inflammatory drugs is common and can be committed by any specialist doctor. This is especially true during the COVID-19 pandemic.

Currently, a descriptive approach to the study of pathological processes in the liver is insufficient. For an accurate and objective assessment of changes in organs and tissues, it is necessary to widely use micropreparations, in particular morphometric, research methods and statistical analysis of the data obtained, which will not only increase the accuracy of assessing the nature and description of the phenomena under study, but also objectify morphological diagnosis.

**Purpose.** The purpose of the study was to identify and evaluate the characteristics of morphological changes in the liver parenchyma under the influence of anti-inflammatory drugs in polypragmasia.

**Objectives of the study.** The main objective of the study is to study and evaluate the normal morphological parameters of the liver, to determine the morphological changes in the liver of laboratory animals with simultaneous use of anti-inflammatory drugs such as Paracetamol, Aspirin, Ibuprofen, Dexamethasone, to determine the morphometric changes in the liver of animals with simultaneous use of anti-inflammatory drugs such as Paracetamol, Aspirin, Ibuprofen, Dexamethasone. Comparative study of morphometric parameters of the liver in the norm and under the influence of anti-inflammatory drugs in polypharmacy is considered the main primary task,

**Materials and methods.** Macroscopic study of liver tissue was performed in rats under normal vivarium conditions.

The following anti-inflammatory drugs were used to study the effect of polypragmasia in experimental groups of white crossbred rats in the experimental group: Aspirin, Paracetamol, Ibuprofen and Dexamethasone.

The liver length of white rats in the first group (control) was 2.8-4.1 cm, with an average length of  $2.45 \pm 0.11$  cm; the liver length in the second experimental group was 3.0-3.8 cm, with an average length of  $3.37 \pm 0.1$  cm; the liver length in the third experimental group was 2.9-3.7 cm, with an average length of  $3.3 \pm 0.1$  cm; the liver length in the fourth experimental group was 2.7-3.6 cm, with an average length of  $3.16 \pm 0.1$  cm; the liver length in the fifth experimental group was 2.6 to 3.4 cm, with an average length of  $2.95 \pm 0.09$  cm.

**Research methods.** 1. Morphometric research method, 2. Statistical research method

**Results.** The weight of the rats of the experimental group ranged from 187.7g to 234.7g, with an average of 220g. The liver mass of the fourth experimental group of rats ranged from 7.13g to 9.2g, with an average of  $7.9 \pm 0.244$ g. The length of the liver of the white-bred rat in the fourth experimental group was 2.7-3.6cm, with an average length of  $3.16 \pm 0.1$ cm.

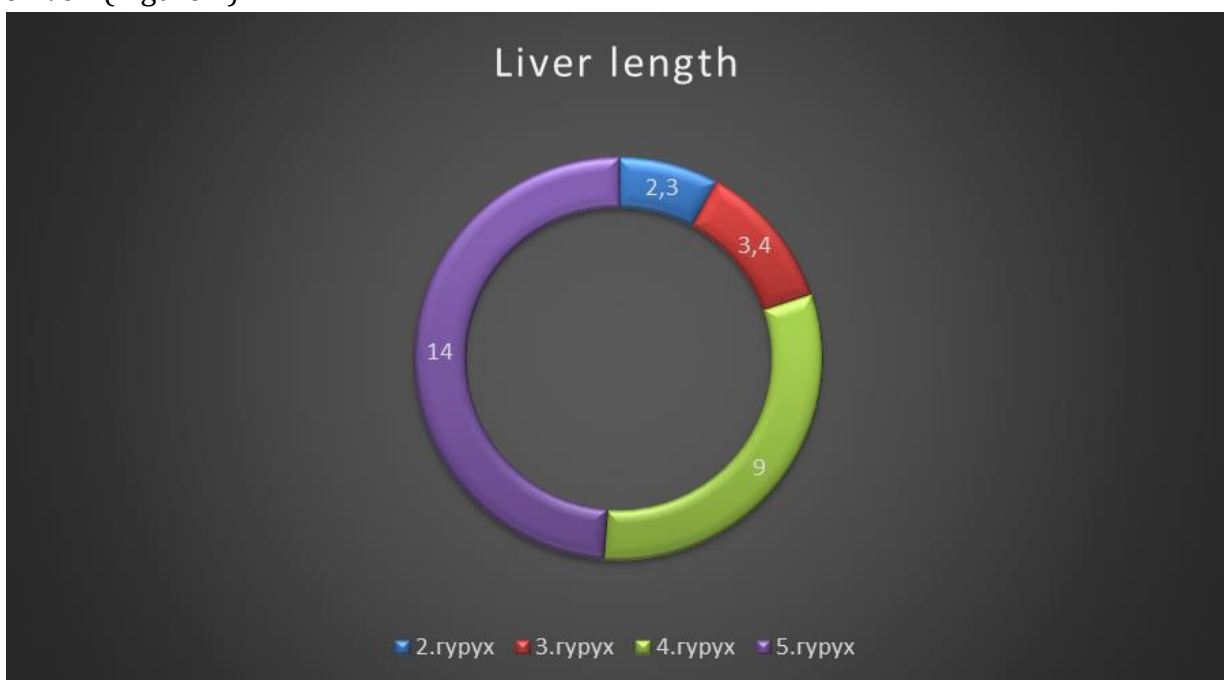
The distance between the upper and lower edges of the liver of the white-bred rat is 1.9-2.5cm, with an average of  $2.2 \pm 0.068$ cm. The thickness of the liver of the white-bred rat is 2.7-3.4cm, with an average of  $3.1 \pm 0.09$ cm.

The arithmetic mean (M), standard deviation (m), average standard error (m), and relative values (frequency, %) of the studied parameter were calculated using the methods of variation parametric statistics. The statistical significance of the measurements obtained by comparing the sizes was determined by calculating the Student's criterion (t) for the normality of the distribution (according to the excess criterion) and the probability of error (P) when checking the equality of the total variances. (e is the Fisher test). To assess the statistical significance of the calculated criteria, tables of indicators and critical values of acceptable significance levels (P) were used.

**The length of the liver of the experimental group rats**

| Age indicator    | Group 1 control animals | Group 2 control animals | Group 3 control animals | Group 4 control animals | Group 5 control animals |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Liver length, cm | $3,45 \pm 0,11$         | $3,37 \pm 0,1$          | $3,3 \pm 0,1$           | $3,16 \pm 0,1$          | $2,95 \pm 0,09$         |

The following changes were observed in the study of liver length in 5 groups. In the control group 1, no changes were observed in liver length, in group 2, the length of the liver decreased significantly by 2.3%, in group 3 by 3.4%, in group 4 by 9%, and in group 5 by 14%. Polypharmacy of anti-inflammatory drugs had a negative effect on liver length. Under the influence of polypharmacy, a decrease in morphological indicators of liver length was observed. The decrease in morphometric parameters depends on the number of drugs in polypharmacy. An increase in the number of drugs deepens pathomorphological processes in the liver. (Figure 2)



**Figure 2.** Comparative analysis of liver length (m) of 5-month-old rats from all experimental groups.



**Conclusion.** Comparison of the length of the morphometric indicators of the liver under the influence of anti-inflammatory drugs (Paracetamol, Aspirin, Ibuprofen, Dexamethasone) with the norm allows us to differentiate and compare pathological conditions. In the normal state, the methods of histological analysis of the liver - morphofunctional analysis of cells under a microscope are widely used in the diagnosis and differentiation of liver diseases. It is considered an effective way to identify liver diseases of various etiologies.

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