THE STUDY OF HOSPITALIZATION CASES IN OSTEOCHONDROSIS OF THE SPINE: KEY ASPECTS AND CHARACTERISTICS OF THE DISEASE

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ABSTRACT

The article is devoted to the peculiarities of the incidence of osteochondrosis of the spine among hospitalized patients. In the course of the study, an analysis of clinical cases of patients diagnosed with osteochondrosis was carried out, which made it possible to identify the characteristic features of hospitalized morbidity and characteristics of this disease. The analysis of statistical data helped to identify the types and frequency of hospitalizations, the types of medical services received, as well as differences among different gender and age groups. Information on the prevalence of the disease among men and women, as well as its impact on different age cohorts and professions, will be an important addition to the general understanding of the problem. The presented statistical data help to assess the prevalence of the disease and its impact on the population. The results obtained contribute to a deeper understanding of the problem and the development of targeted measures to prevent it.

Key words: osteochondrosis of the spine, herniated disc, hospitalized morbidity, risk factors.

INTRODUCTION

According to the World Health Organization (WHO), osteochondrosis of the spine is the leading disease of the musculoskeletal system in the world, predisposing or affecting almost 80% of the world's population and accounting for almost 90% of all chronic diseases of this class. In the last two decades, there has been a serious revision of views on the problem of osteochondrosis of the spine.

The vast material accumulated through the development of MRI and CT has shown that the term "osteochondrosis" hides many pathologies, both degenerative and inflammatory [3,4]. In addition, back and neck pain as a complication of osteochondrosis limit vital activity, reduce the quality of life of patients, disorganize not only the functional state of the body, but also change the psyche and behavior of people [2,4]. More than half of the patients suffering from osteochondrosis of the spine have signs of chronic emotional stress [1,5].

Thereupon, **the research objective** was: to study the features of hospitalized morbidity of spinal osteochondrosis.

Research materials and methods. To study age and gender characteristics and occupation as risk factors for spinal osteochondrosis in hospitalized patients, 2,511 case histories of patients of the department of vertebrology diagnosed with OS were studied in the archive of the Republican Specialized Scientific and Practical Medical Center of Traumatology and Orthopedics. The analysis of statistical data was carried out in the Statistica 10.0 application software package. Statistical data are presented in the form of arithmetic mean and standard deviation ($M \pm \sigma$) or percentage (%). When comparing qualitative features, the criterion $\chi2$ was calculated. The differences were considered statistically significant at $p < 0.05$.

The results and their discussion.

The analysis of statistical data showed that the majority of hospitalized patients with OS are people of working age, since their average age was 56.6 ± 0.3 years and did not significantly change during the study period. The minimum age of hospitalized patients with osteochondrosis is 16 years, the maximum is 91 years. The proportion of women in the study group of hospitalized osteochondrosis patients was 66.7%, men – 33.3%. When comparing the characteristics of patients depending on gender, it was found that the ages of men and women hospitalized for OS differ, the average age of women turned out to be 5.8 years higher than that of men ($p<0.001$) (58.5 ± 0.3 and 52.7 ± 0.5 years, respectively). (1-tab)

Table 1

Age data of patients

Age groups	Men %	Women %	Overall
<21	1,9±0,5*	0,4±0,15	0,9±0,6
21-30	5,5±0,8*	2,2±0,36	3,3±0,4
31-40	15,7±1,3	9,4±0,7	11,5±0,6
41-50	23,5±1,5	15,5±0,9	18,2±0,7
51-60	17±1,3	22,1±1*	20,4±0,8
61-70	23,9±1,5	29,5±1,1	27,6±0,9

71-80	9,7±1*	17,9±0,9	15,1±0,7
81-91	2,9±0,5	3,1±0,4	3±0,3
Average	52,7±0,5	58,5±0,3	54,9±0,6
Minimum	16	16	16
Maximum	91	91	91

*Note: * - the difference in the average indicator among men and women is significant: *-p<0,0001;*

When analyzing the average duration of the disease at the time of admission, we obtained the following results. According to the duration of the disease, patients do not obey a certain law. However, it can be said that almost 1/3 of the total number of patients (31.4±1.8%) are in the period 4-5 years from the onset of pathological disorders, although the range varied significantly – from a few days to 32 years. Among men and women, the number of patients increased in accordance with the duration of the disease, with the most patients who were ill for 3 years (19.2±1.3% and 18.8±0.9, respectively), and then the number of patients decreased with increasing duration of the disease. There were no statistically significant differences in the duration of the disease between other indicators in women and men. It was found that men with a disease duration of 1 year are more common than women, while the duration is more than 11 years, on the contrary, women are more common than men (p<0.001) (Table 2)

Table 2

Distribution of patients by disease duration (%).

№	Duration of the disease	Overall	Men	Women
1	Up to 1 month	0,3±0,1	0,4±0,2	0,3±0,1
2	Up to 1 year	5,3±0,4	3,8±0,7	2,4±0,3*
3	1 year	11,3±0,6	6±0,8	5±0,5
4	2 year	11,3±0,6	13,6±1,1	10,2±0,7
5	3 year	18,9±0,7	19,2±1,3	18,8±0,9
6	4 year	16±0,7	15,4±1,2	16,2±0,9
7	5 year	16,2±0,7	14,3±1,2	17,1±0,9
8	6 year	6,6±0,5	7,5±0,9	6,1±0,6
9	7 year	6,5±0,5	6,9±0,8	6,2±0,6
10	8 year	4,5±0,4	3,8±0,7	4,9±0,5
11	9 year	4,8±0,4	4,8±0,7	4,8±0,5
12	10 year	2,6±0,3	1,9±0,5	3±0,4
13	11 and more year	4,1±0,4	2,3±0,5	5±0,5**
	Total	100	100	100

*Note: * The difference between men and women is statistically significant   p<0,05, **- p<0,001.*

When the correlation between the duration of the disease and the age of patients was analyzed, it was found that there is a direct average correlation between men and women (r=0.36 and r=0.33, p<0.05, respectively). This duration of the disease can be explained by the work of men, and in women - by changes in metabolism after menopause.

The duration of temporary disability was assessed in a group of patients who were discharged from hospital after discharge. This group did not include people who did not need sick leave (schoolchildren, students, the unemployed and pensioners) or refused them (farmers, businessmen, people working in private enterprises). Among the patients who were issued a sick leave upon discharge from the vertebrological department of the Medical scientific-practical Center of Traumatology and Orthopedics of the Republic of Uzbekistan (10.3 ± 1.2%), the duration of temporary disability at the time of discharge from the hospital averaged 6± 0.4 days. For women and men who received a temporary disability certificate, it was 10.0 =1.4% and 10.8=2.1%, respectively. The leaflet duration averaged 5.8±0.4 and 6.3±0.5%, respectively. There was no statistically significant difference between the groups in this indicator.

When analyzing the diagnosis made in the emergency department, it turned out that osteochondrosis of the lumbar vertebrae prevails as the main diagnosis, osteochondrosis of the cervical vertebrae, osteochondrosis of the lumbar spine with herniated intervertebral disc and osteoporosis were also diagnosed, although there were few of them. There was no statistically significant difference between women and men in the diagnosis made in the emergency department (Table 3).

Table 3

Distribution of patients by diagnosis in the emergency department (%)

№	Diagnosis in the emergency department	Overall	Men	Women
1	Osteochondrosis of the lumbar spine.	97,1±0,6	97,6±1,0	96,9±0,8
2	Osteochondrosis of the cervical spine.	0,6±0,3	0,9±0,7	0,4±0,3
3	Osteochondrosis of the lumbar and cervical spine.	0,5±0,3	0,0±0,0	0,7±0,4
4	Osteochondrosis of the lumbar spine with herniated disc	1,7±0,5	0,9±0,7	2,0±0,7
5	Osteoporosis	0,2±0,2	0,5±0,5	
	Total	100	100	100

Patients who have undergone single inpatient treatment (98.2±0.5%) per year predominate. And the remaining 1.8 ± 0.5% of patients underwent inpatient treatment 2 times a year. There were no patients who received inpatient treatment 3 times or more. The proportion of people treated twice in hospital is higher among men than among women, but there was no statistically significant difference between the groups according to this indicator.

Conclusion. 1. The main group of hospitalized patients diagnosed with osteochondrosis includes people of working age, whose average age is 56.6± 0.6 years (in the range from 16 to 90 years). In those patients who were issued a sick leave upon discharge from the Department of Vertebrology, the average duration of temporary disability was 6 ± 0.4 days.

2. Among hospitalized patients, osteochondrosis of the lumbar spine is most common, amounting to 83.3%, while osteochondrosis of the cervical and thoracic sections is observed much less frequently — 14.6% and 2.1%, respectively. Herniated discs are mainly (92.2%) detected at the lumbar level, whereas at the cervical and thoracic levels their proportion is significantly lower — 7.3% and 0.5%, respectively.

REFERENCES

1. Armbrecht G., Felsenberg D., Ganswindt M., Lunt M., Kaptoge S.K. [et al.] European Vertebral Osteoporosis Study and European Prospective Osteoporosis Study Groups. Degenerative intervertebral disc disease osteochondrosis intervertebralis in Europe: prevalence, geographic variation and radiological correlates in men and women aged 50 and over // Rheumatology (Oxford). – 2017. – № 7. – P. 1189–1199

2. Juniper M., Le T., The epidemiology, economic burden and Pharmacological treatment of chronic low pain in France, Germany, Italy, Spain and UK: a literature based review/Expert opin/ Pharmacother/ 2009; 10(16);2581-92

3. Kreneva Yu.A., Panov V.P., Avdeeva M.V., Bogomolova K.A. Restorative potential of complex rehabilitation measures in providing primary health care to patients with spondylogenic pain syndrome // Preventive and clinical medicine. 2018;2:76-82

4. Tae-Won J., Yeon-Soon A., Junsu B., Jong-In L., Kun-Hyung K., Motina A.N., 2020; Sorokovikov B.A., 2016; Goode A.P., 2012 [et al.] Lumbar intervertebral disc degeneration and related factors in Korean firefighters // BMJ Open. – 2016. – № 6. – P. e011587. DOI: 10.1136/bmjopen-2016-011587

5. Tehranzadeh J., Andrews C., Wong E. Lumbar spine imaging. Normal variants, imaging pitfalls and artifacts // Radiol. Clin. North. Am. - 2000. - V. 38. - №6. - P. 1207-1253.