

Pharmacoepidemiology of anti-inflammatory drugs for spinal osteochondrosis with reflex syndrome

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Abstract: The article presents a comparative analysis of the structure used in the framework of pharmacotherapy of spinal osteochondrosis with reflex syndrome of anti-inflammatory drugs in the departments of neurology 3rd and 1st clinics of the TMA in 2015. It has been established that analgesic therapy with the use of anti-inflammatory drugs is carried out 100% of cases and is prescribed in combination with other NSAIDs, analgesics and GCS. Among the NSAIDs used to treat osteochondrosis, diclofenac holds the leading place.

Key words: pharmacoepidemiology, NSAIDs, spinal osteochondrosis, drug therapy.

The rapid development of the pharmaceutical market in the last decade has determined the large-scale pharmacoepidemiological research in the country [4,6]. The results of such work allow an objective assessment of the quality of pharmacotherapy, to find out the rationality of the use of medicines, to outline ways to optimize the consumption of medicines. At the same time, the study of the pharmacoepidemiology of NSAIDs is of undoubted interest because of the high

consumption of NSAIDs as anesthetic drugs [1, 5].

More than thirty million people in the world take NSAIDs daily, and 40% of these patients are over 60 years old [2, 3].

Purpose of the study:

To conduct a pharmacoepidemiological analysis in the neurological department and to carry out an expert assessment of the existing practice of prescribing NSAIDs for inpatient treatment of spinal osteochondrosis with reflex syndrome.

Materials and research methods

The study was conducted on the basis of the neurological department 1 and 3 of the TMA clinic. An open retrospective study was conducted based on a complete analysis of case histories of patients who applied for help in the period 2015 and 2017, with an established diagnosis of spinal osteochondrosis. 613 case histories were analyzed; a specially designed individual registration card was filled in for each case.

By the nature of the information we received, we used an analytical method to study the consumption of drugs (CD), and according to the ratio of the time of studying phenomena to the time of their development - prospective and retrospective. We conducted a pharmacoepidemiological (PE) study that focused on drugs and groups of drugs used to treat neurological pain.

For the implementation of the tasks, a method of quantitative and qualitative review of the use of drugs was used.

Results and their discussion

The results of the analysis used in the treatment of patients with spinal osteochondrosis of anti-inflammatory drugs in two clinics of TMA in 2015 are presented in Fig.1.

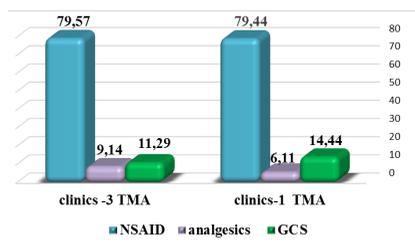


Fig.1. The structure of anti-inflammatory drugs used in the treatment of patients with spinal osteochondrosis

in the departments of neurology 1st and 3rd clinics of the TMA in 2015.

As can be seen from the presented data, the highest proportion in the structure of anti-inflammatory drugs used in the treatment of the studied pathology in both departments in 2015 is NSAIDs and makes up 4/5 of all used anti-inflammatory drugs. The next place in terms of weight is glucocorticosteroids (GCS).

The next place in terms of weight is glucocorticosteroids (GCS). At the same time, the proportion of used SCS is comparatively higher in the neurology department of the 1st clinic of the TMA as compared to the neurology department of the 3rd clinic of TMA by 27.9%. At the same time, the proportion of analgesics, on the contrary, in the neurology department of the 1st clinic of the TMA was lower by 33.2%, respectively, compared with the neurology department of the 3rd clinic of the TMA. It should be noted that in both compared departments for the treatment of patients with spinal osteochondrosis with reflex syndrome, analgin and baralgin were used as analgesics and dexamethasone as the corticosteroids. At the same time, used NSAIDs, both in the number of drugs and in their names, were slightly different.

In Fig.2 presents the structure used for the treatment of the studied pathology of NSAIDs in the Department of Neurology 3rd clinic of the TMA.

As can be seen from the data presented for the treatment of patients with osteochondrosis of the spine with reflex syndrome, 12 NSAIDs were used. Of these, more than half was the drug Diclofenac. Almost every sixth patient used the drug Revmoksikam and every

tenth patient received the drug Ketoprofen. Therefore, these three NSAIDs accounted for 82.5% or 4/5 of all the NSAIDs used in the pharmacotherapy of the studied pathology. And the share of the remaining 9 NSAIDs comes to only about 1/5 of the used NSAIDs.

Among them, Artaxan was used in almost every 15 patients, Artrakol - in every 20 patients, and Melbek - in every 40-45 patients. And the remaining drugs were used in isolated cases. Consequently, in the Department of Neurology, 3rd clinics of the TMA in 2015 for the treatment of spinal osteochondrosis with reflex syndrome, the priority NSAIDs were Diclofenac, Revmoksikam and Ketoprofen.

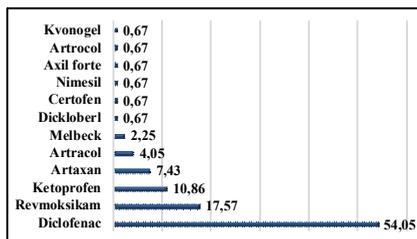


Fig.2. The structure of the used for the treatment of patients with osteochondrosis of the spine with reflex syndrome NSAIDs in the Department of Neurology 3rd Clinic of the TMA in 2015

The analysis of the dosage forms used by the NSAIDs suggests that preference is given to parenteral dosage forms of these NSAIDs. However, only 2.7% of cases of NSAIDs were used enteral or topically (topical use), while in the remaining 97% of cases, NSAIDs were used parenteral as an injection.

The analysis shows that in the neurology department 3rd clinic of the TMA per 1 patient with the pathology

being studied, an average of 1.28 conventional anti-inflammatory drugs were used. 80% of this unit is NSAIDs, and the remaining 20% - GCS and analgesics.

The results of the analysis of the structure of the used NSAIDs in the neurology department of the TMA clinic in 2015 are presented in Fig.3.

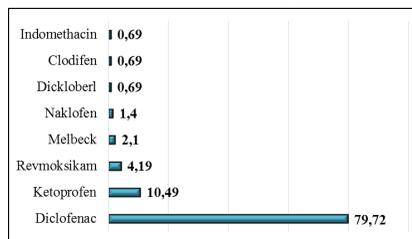


Fig.3. The structure of the used for the treatment of patients with osteochondrosis of the spine with reflex syndrome NSAIDs in the neurology department 1st clinic of the TMA for 2015.

As can be seen from the presented data for the treatment of patients with osteochondrosis of the spine with reflex syndrome in the neurology department of the 1st clinic of the TMA, 8 NSAIDs were used. Of these, 4/5 part was the drug Diclofenac. Every tenth patient, as well as in the department of neurology at 3rd clinic of the TMA, received the drug ketoprofen. Therefore, these two NSAIDs accounted for more than 90% of all the NSAIDs used in pharmacotherapy for the pathology under study. And the share of the remaining 6 NSAIDs is only about 1/10. Consequently, in 2015, for the treatment of spinal osteochondrosis with reflex syndrome, the priorities NSAIDs were diclofenac and ketoprofen in the Department of Neurology 1 of the TMA clinic in 2015.

The analysis of the dosage forms used by NSAIDs indicates that in 91.7% of cases, NSAIDs were used as an injection, in 8.3% of cases, as an oral form for oral administration. Consequently, in the Department of Neurology 1st clinic of the TMA for the treatment of patients with the studied pathology of NSAIDs 3 times more used forms for oral administration.

The analysis shows that in the neurology department of the TMA clinic for 1 patient with the pathology studied, an average of 1.29 conventional anti-inflammatory drugs were used, which

practically does not differ from that in the TMA clinic 3. And here, as at 3 clinics, 80% of this unit is NSAIDs and the remaining 20% are GCS and analgesics.

As in the 3rd and in the 1st clinics of TMA in the treatment of patients with spinal osteochondrosis with reflex syndrome, anti-inflammatory drugs were used in combinations, the results of this analysis are presented in the table.

The analysis shows that in the analyzed patients in 23.1% of cases anti-inflammatory drugs were used in combination.

The frequency of occurrence of combinations of NSAIDs with NSAIDs, NSAIDs with GCS and NSAIDs with analgesics

Combination of medicine	3 rd clinic of the TMA	1 st clinic of the TMA
NSAIDs + GCS	44,2	57,14
NSAIDs and + Anal.s	30,2	19,05
NSAID+ Anal + GCS	9,3	2,38
NSAIDs with + NSAIDs	6,98	-
NSAIDs + NSAIDSt	6,98	11,9
NSAIDs + NSAIDsm	2,32	4,76
Anal. and + GCS	-	4,76

As can be seen from the presented data, NSAIDs injections were most often combined with GCS (dexamethasone) injections, the proportion of which amounted to almost half of all combinations of drugs. Almost 1/3 of the combination of anti-inflammatory drugs came on a combination of NSAIDs used in injections with analgesics. 1/10 of these combinations were a combination of NSAIDs with analgesics and corticosteroids. The remaining combinations, in particular, NSAIDs in injections with other NSAIDs in injections, as well as NSAIDs in injections with NSAIDs in tablets and in the form of ointments were relatively less common.

Consequently, in every fourth patient with the pathology being studied, NSAID preparations were used in combination with other NSAID preparations as well as analgesics and GCS drugs.

Therefore, in the 1st clinic of the TMA, the combination of anti-inflammatory drugs used in pharmacotherapy of patients with the pathology under study does not differ significantly in frequency from that in 3rd clinic of the TMA. However, there is a difference in the specific weight of individual combinations, in particular, if the combination of NSAIDs in injections with GCS and NSAIDs injections with NSAIDs in tablets is more common in

1st clinic, the combination of NSAIDs used in injections with analgesics, on the contrary, is less common, respectively.

Thus, a comparative analysis of the structure used in the framework of pharmacotherapy of spinal osteochondrosis with reflex syndrome of anti-inflammatory drugs in the neurology departments of the 3rd and 1st clinics of the TMA for 2015 as a whole indicates

the presence of the same picture, except for some differences, in particular a wider range of names used by NSAIDs 3rd clinic compared with 1st clinic, a relatively high frequency of use of diclofenac in 1st clinic compared with 3rd clinics, as well as the unequal frequency of use the combinations of used groups of medicines in the analyzed clinics.

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