

Chronic Pain as a Problem of Modern Society

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Abstract: *Pain is also one of the most frequently encountered symptoms in the primary care, representing enormous burden related to suffering on the part of the patient, deteriorated quality of life and high expenses of health care. It is admitted that the degree of the early postoperative pain is a significant predictor for the chronic one, which maintains the hypothesis that the continuous nociceptive stimuli in the perioperative period result in a change in the central nervous sensitization. The stated hereinabove determines the attention of the specialists in various spheres of medicine and psychology as well as the need of development of a complex medical-psychological approach in the treatment of pain, as further to the big financial expenditures realized by it, it intensely deteriorates the quality of life of the person affected by it.*

Keywords: postoperative pain, chronic pain, epidemiology of the postoperative pain

1. Introduction

There is a number of pre-, intra- and postoperative risk factors for the development of chronic postoperative pain. It is proven that the continuous postoperative interventions result in a higher risk for its development.

It is admitted that the degree of the early postoperative pain is a significant predictor for the chronic one, which maintains the hypothesis that the continuous nociceptive stimuli in the perioperative period result in a change in the central nervous sensitization. (54), (1)

Chronic pain is widespread. One in every three Americans and one in every fifth Canadian announces that they suffer this problem. (28), (32)

Pain is also one of the most frequently encountered symptoms in the primary care, representing enormous burden related to suffering on the part of the patient, deteriorated quality of life and high expenses of health care. (48)

The variations in the frequency of the chronic postoperative pain are most probably related partially to the absence of a standardized definition of this complication, although it is frequently determined as permanent pain, which does not have any other obvious reasons and is with duration of at least 2 months after the operation, i.e. during the expected recovery period. (38), (41), (42)

The frequency of the chronic postoperative pain as well as of the early postoperative pain varies in conformity with the kind of the operation and in general decreases in the course of time.

In a two-year Spanish prospective cohort study of 2929 patients who were subjected to hernioplasty, thoracotomy or hysterectomy, the frequency of the chronic pain was within the limits of 37,6% in thoracotomies up to 11,8% in vaginal hysterectomies in the 4th month after the operation. (45)

Similar to a French research of 2397 patients who experienced cholecystectomy, inguinal herniography, saphenectomy, sternotomy, thoracotomy, knee arthroscopy,

a breast cancer operation and Caesarean section indicates a persisting postoperative pain in 34.9% and 29.5% in the 3rd and the 6th month. (21)

On the grounds of the data from the epidemiologic researches, the dissemination of the chronic pain in the population varies from 2 % to 40 %, at the average 15 %. (22), (24), (43), (47), (63)

According to the latest data, 88 million inhabitants of the USA feel chronic pain. (38)

Scandinavian scientists also announce that about 23,2 % of the population of Northern Sweden at the age from 25 to 74 years old feel chronic pain with various degree of intensity as well. (4), (13), (27)

In Norway, the significant chronic pain is from 24, 4% to 30 %. (53)

Each fifth Australian, inclusive of children and the young generation lives with chronic pain. (10)

According to data from a sociological telephone inquiry conducted in Great Britain in 1991, 17 % of the inhabitants in the United Kingdom feel chronic pain. (4)

The meta-analysis for investigation of the pain conducted in Great Britain after 1990 proves that its dissemination in the country has a tendency to increase and the indicators are already within the limits from 35 % to 51, 3 %. (25)

In the adult group of investigated English citizens, the chronic pain has the following distribution: 18-39 years old - 14, 3 %, from 75 years old and above – up to 62 %.

Most of the specialists are of the opinion that the most frequent disseminated reasons for it are the operations, the traumas, the cancer and so on.

It is announced in a literary survey of BMJ that chronic pain is the most frequently arising and serious postoperative problem. (34)

It is proven that 75 % of the patients with diagnosis cancer

also feel chronic pain. (40)

The mechanisms, which participate in the development of the chronic pain have also been established in the last 2 decades, to wit the combination of the damaging factors (most of all the inflammatory process, the tissue damage, the impairment of nerves and the central sensitization. (31), (5), (51), (65)

All these factors are available at hand also with regard to the acute postoperative pain. The development of chronic pain after operation includes pre-operative, intra-operative and postoperative factors. (59), (55), (31), (64), (5), (12), (33), (14), (61), (6), (37), (49), (50), (67)

The preceding pain syndromes, consecutive operation, mental stability, gender, age, genetic predisposition are included in the first group of factors. Surgical access with a nerve damage risk refers to the intra-operative factors. The pain (acute to strong), radiation therapy in the area, which the surgical interference was performed on, neurotoxic chemotherapy, depression, psychic lability, neuroticism, anxiety refer to the third group of postoperative factors. A multitude of researches in patients subjected to a broad spectrum of operations indicate that the availability and the intensity of the acute postoperative pain are a serious predicting factor for the development of chronic pain. (36), (52), (16), (35), (60), (46), (17)

Postoperative pain has adverse impact both over the physical recovery of the patients and over the quality of life. (61), (50), (67)

This impact also corresponds to the seriousness of the pain syndrome. (15), (50), (67)

Patients subjected to various in kind planned surgery and having high levels of pain 4 days after the procedure are with a high risk for functional limitations 6 months after the operation. (50)

Inadequate anesthesia results in prolonged hospital stay, re-hospitalizations and later recovery of the movements of the patients. All this is a reason for bigger expenses for health care.

Economic impact of pain over health

Pain results in increased expenditures in the health care system, which exerts adverse impact over the national budget of the states. (23), (57)

The costs for its treatment in the USA add up to about 90 million US Dollars. (38)

In Switzerland solely for year 2003 the losses from disability as a result of this kind of pain constitute 91 % of the social – economic value - 87, 5 billion Swedish Kronas (737 0000000 pounds). (58)

The financial losses in 2007 for treatment of chronic pain in Australia are assessed as adding up to 34 billion US Dollars. It may be viewed as stressor, which turns the reserves of the body for overcoming the difficulties into negative, psycho-

social consequences, invalidity, decreased quality of life. (19), (39)

Strong postoperative pain is the reason for the continuous use of opioid analgesics, as a result of which a multitude of side effects are frequently observed – nausea, vomiting, respiratory depression, deteriorated quality of life, and this in its turn significantly increases the hospital expenses, the hospital stay and the frequency of the re-hospitalizations. (15), (50), (67), (26), (18), (6), (29), (56), (8), (20), (9), (36), (52), (16), (35), (60), (46)

It is reported in a research of Coley and colleagues that the average price for a patient for subsequent treatment due to inefficient analgesia after outpatient surgery is $1869 \pm 4, 553$ US \$ per visit (1999 US \$).

In 2008 in the USA, the public annual expenses for conservative treatment of pre-operative and postoperative chronic pain are assessed within the range from 560 to 635 billion US Dollars.

The price for treatment of the chronic pain after the acute such is assessed to add up to 1 million US Dollars per patient for all his/her life. (17)

The stated hereinabove determines the attention of the specialists in various spheres of medicine and psychology as well as the need of development of a complex medical-psychological approach in the treatment of pain, as further to the big financial expenditures realized by it, it intensely deteriorates the quality of life of the person affected by it. [I should quote the author of the article]. (2)

Many patients who develop chronic pain may indicate as a reason a previous episode of acute pain. (10)

Therefore, the treatment of the acute pain is prophylactics of its chronification.

Some of the risk factors are well known. Operations as amputation, thoracotomy and radical mastectomy for sure result in chronic postoperative pain. (11)

The psycho-social factors which contribute to this as “mental vulnerability”, depression and anxiety are also involved. (49)

Due to this reason the treatment or the alleviation of anxiety and depression are vitally significant components at the management of the perioperative pain. The discussion with the sick persons of the significance of the depression and the anxiety and their attitude to pain should not be neglected as this improves the recovery and the quality of life of the patients in a long-term plan. (3)

2. Conclusion

It is characteristic of the chronic postoperative pain that it lasts for at least two months and usually develops after a surgical procedure and is not related to a preliminarily existing pain or another reason.

The pathogenesis of formation of the chronic postoperative pain is based on dysfunction of the nociceptive and antinociceptive systems with deficit of the latter.

The reasons for passing from acute into chronic pain are a lot and diversified (big in volume and trauma operations, infectious postoperative complications and so on).

On the other hand, chronic pain significantly increases the expenses of the medical treatment facilities.

This is why the application of an interdisciplinary approach for treatment of pain in patients after an operation commences from the planning of the operation, during the entire period of the stay of the sick person in the hospital as well as after his/her discharge during the outpatient stage of treatment.

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