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A DYING PATIENT – HOW MUCH ANALGESIA?

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SUMMARY

As human life is invaluable, each person has the right to humane and dignified care at the end of life. The aim of treatment is to achieve the best possible quality of life for the terminally ill. The emphasis should be placed upon quality rather than length of life. The care for dying patients with incurable diseases is provided through palliative care. Particular attention during treatment in this last part of life is paid to the control of pain. Malignant pain is most commonly therapy- and procedure-related pain, generally caused by somatic, visceral, and neuropathic mechanisms. Management of malignant pain involves the application of pharmacotherapy combined with cognitive-behavioral techniques.

Opioids are the most efficient pharmacotherapeutic agents. However, their use is associated with a number of serious side effects, the most significant being respiratory depression. Numerous studies have proved that despite such an effect, there is no reason for their avoidance or any obstacle for their administration for pain management. Another, quite common reason for avoiding the use of opoids is the fear of addiction, which is an extremely rare occurrence in dying patients, according to scientific research results. Death is an integral part of life and the quality of life must be optimal to its very end, especially in terms of pain curing.

KEYWORDS: *dying patient, palliative care, malignant pain management, opioids*

UMIRUĆI BOLESNIK – KOLIKO ANALGEZIJE?

Sažetak

Ljudski život ima neprocjenjivu vrijednost te svaki čovjek ima pravo da ga u dostojanstvu završi. Svakom bi bolesniku trebalo omogućiti da umiranje, kao završni dio života proživi što je moguće kvalitetnije. Naglasak bi trebao biti na kvaliteti, a ne na duljini života. Briga za umiruće bolesnike čija je bolest neizlječiva provodi se putem palijativne skrbi. Najvažniju komponentu takvog liječenja čini adekvatna kontrola boli. Najčešći izvor boli u malignih bolesnika su terapijska i proceduralna bol. Malignu bol najčešće čini kombinacija somatske, visceralne i neuropatske boli. U liječenju boli nužno je uz farmakoterapijske pripravke primijeniti i kognitivno-biheviorističke metode. Od farmakoterapijskih pripravaka treba izdvojiti opioide. Smatraju se učinkovitim lijekom, ali njihova primjena se povezuje sa većim brojem ozbiljnih nuspojava od koji treba izdvojiti depresiju disanja. Mnogobrojne su studije dokazale da navedeno nije razlog za njihovo izbjegavanje u liječenju boli. Čest razlog nekorištenja opioida jest također i strah od pojave ovisnosti koja se prema znanstvenim podacima u umirućih bolesnika javlja izrazito rijetko.

Smrt je sastavni dio života te cilj liječenja svakog umirućeg bolesnika mora biti postizanje optimalne kvalitete života bolesnika prilikom čega najveću pažnju treba posvetiti liječenju boli.

KLJUČNE RIJEČI: *umirući bolesnik, palijativna skrb, liječenje maligne boli, opioidi*

Today, at the beginning of the 21st century, when we are witnessing degradation of a number of values, there is still one that remains invaluable, i.e. human life. Each person has the right to spend every portion of his/her life including the last one with great dignity, without pain and suffering (1). The period of passing away should be no exception to it. Encounters with dying patients are physicians' daily routine. Two dominating questions that reflect the subject matter of this paper are whether physicians pay sufficient attention to dying patients and to what extent do they contribute to the enhancement of their pre-death period of life.

In the treatment of symptoms, emphasis is placed on quality rather than on length of life (2). The aim of treatment is to achieve the best possible quality of life for the terminally ill (3). Particular attention during the treatment in this part of life is paid to the control of pain.

According to the definition of the International Association for the Study of Pain (IASP), which was adopted by the World Health Organisation, pain is an unpleasant sensible and emotional subjective experience associated with actual or potential tissue damage, or described at the time of such damage (4). The emphasis in this definition is placed upon the words "subjective experience". Patients with chronic pain (especially those with malignant disease) often deny pain (5). The reasons range from a complete denial of illness to the false belief that suffering from pain strengthens their spirit. In such cases it is our goal to recognize such patients in order to start timely treatment of pain.

Depending on the pathophysiological mechanisms, pain is divided into: somatic, visceral, and neuropathic. Malignant pain, however, is a combination of those. Research has shown that 30-40% of patients with malignant disease suffer from pain at the time their diagnosis is established. In both the advanced and final stage of the disease this figure rises to as much as 75-90% (6, 7).

The treatment of malignant pain is based on the basic principles of supportive and palliative medicine, i.e upon quick and effective removal of pain, treatment of "total" pain and pain treatment plan. The treatment of malignant pain is multimodal. It involves the application of pharmacotherapy and cognitive and behavioral techniques. The main pharmacotherapeutic agents used in the treatment of malignant pain are analgesics (8). They are divided into neopioid, opioid and adjuvant analgesics. Opioid analgesics are most widely used in the treatment of malignant. In order to treat pain efficiently and to determine an appropriate dose of analgesics, it is necessary to establish the intensity of pain. For this purpose, VAS (visual analogue scale) pain scale is employed. The scale ranges from 1 to 10, the latter being the maximum possible pain (9). By the year of 2005, the analgesic treatment of malignant pain was based upon a three-stage scale of the World Health Organisation (10). In the low intensity of pain (up to 4 points by VAS) NSAR and paracetamol have been used. Light opioids such as tramadol, codein or a combination of tramadol and paracetamol have been used for average pain intensity (4-7 points by VAS). Severe pain (7-10 points by VAS) requires the use of morphine and synthetic opioids. In addition, coadjuvant drugs have been added. Based on 20 years of experience with the three-stage scale a need to develop a new algorithm in the treatment of pain emerged. Therefore, in 2005 IASP (International Association for or the Study of Pain) brought about a new model for the treatment of pain, commonly referred to as the "lift model" (11). The main difference with reference to the previous model is the introduction of therapy depending on the degree of pain, but without trying to relieve pain by means of light analgesics. It actually means that if slight pain is present, the therapy will be carried out by means of opioids and neopioids. The treatment of average pain should include small doses of strong opioids, whereas severe pain should be treated with strong opioids. The main advantage of the lift model over the three-stage analgesic scale consists in the pain relief in the shortest possible period of time (12). In addition, numerous studies have proved the superiority of light opioids over non-steroidal antireumatics (13) through a reduced number of side effects. Furthermore, research has shown that the number of minor side effects was present when using weak opioids rather than when using non-steroidal ammatory (13). According to a report by the World Health Organisation (WHO) in 80-90% of patients, pain can be successfully controlled by peroral application of drugs (14), whereas the drug should be applied parenterally by 10-20% of patients. Patients should avoid permanent use of the drug through intra-

muscular or intravenous injections and repeated infusion because such way of treating pain can sometimes cause additional pain to the patient. For this reason, 2-6% of patients are fitted with appliances for permanent subcutaneous drug application. The best mode of taking the drug is orally. However, if the patient cannot receive therapy orally, medication may be applied transdermally, rectally, sublingually, intrathecally, etc.

Due to the nature of the malignant disease patients, pain increases as time elapses and therefore, the universal standard for pain treatment consists in the application of morphine and its synthetic derivatives (15). Morphine is compared with the action of other synthetic opioids.

Opiods bind to opioid receptors located in neurones of the central and peripheral nervous system thereby blocking the occurrence of pain (16).Opioid receptors are divided into three main classes: μ (mu), δ (delta) and κ (kappa). The majority of opioid drugs have a selective impact onto μ-receptors. Opioids are considered as highly effective medication. However, their use is associated with a number of side effects (17). The most common side effect of opioid therapy is constipation, which occurs as a result of reducing intestinal secretion and peristalsis. Mild forms are treated with dietary measures, and in severe cases, laxatives should be applied (18). The following adverse effect occurring in as many as 30-60% of patients are nausea and vomiting, commonly taking place in the first week of the therapy application (19). Symptoms usually subside after the use of antiemetics such as metoclopramide, antihistamics, haloperidol, chlorpromazine, scopalamin and 5-HT 3 antagonist receptors. At the beginning of treatment, sedation and cognitive changes may be expected (20). The above side effects are of transient character. Respiratory depression is the side effect that considerably worries medical staff. Opioids cause reduced sensitivity of neurons to carbon dioxide in the respiratory center. Therefore, slower breathing and the consequent increase of the concentration of carbon dioxide occur (21). Since carbon dioxide is the strongest vasodilator, it leads to cerebral vasodilatation and elevated intracranial pressure.

Despite this serious side effect, the use of opioids is safe as shown by a number of studies. If they are applied correctly, this side effect occurs very rarely, or precisely in 0.01% of cases. It has also been proved that the use opioids is safe for patients with reduced pulmonary function. Patients undergoing a long-term therapy of opioids usually develop tolerance to their effects on the respiratory center. Yet, if respiratory depression occurs, nalaxone being also an opioid antagonist, should be applied (22). After intravenous application, respiration effects are observed immediately. In the long-term use of opioids, the tolerance to the medication and physical dependence may be developed. The tolerance implies a need to increase the dose of medication to the level sufficient for analgesia. As for the physical dependence, it is rather rare in dying malignant patients. When pharmacological treatment of pain is necessary, behavioral and cognitive techniques are to be to applied. In the treatment of pain major attention should be paid to constant evaluation of pain in order to timely change therapy, if pain is not adequately treated (23).

In the last year of life, most of the patients are at home. In case of worsening of the disease, they first contact their family doctor. A specific nature of a physician in primary health care offers him/her a possibility of a home visit, not only to assess the patient's health but also to get a much broader insight into the entire patient's situation. The above is extremely important because it renders additional information to the physician. In this way we find out with whom the patient lives, who takes care of him/her, if there is a family member who can control the treatment application regularly, if the patient is able to perform regular hygienic habits himself/herself, etc. All those information present the essential input for the decision of selecting the adequate therapy to individual patients. If the physician decides to apply a long-term treatment and a permanent control of the patient, he/she will notify both palliative care organization and home health care institution. In close cooperation with them, the physician's most important objective is the patient's adequate pain treatment (24).

CONCLUSION

One of the major goals of treatment of dying patients is pain relief or if it is impossible, at least the relief of pain sensation. It is extremely important to commence pain therapy on time, because

any delay leads to harmful consequences to the whole organism. If the treatment fails, the cell subjected to painful stimuli will trigger transient changes, becoming permanent. Such body will react more vigorously, it will become more sensitive to painful stimuli, its response will last longer and the stimuli will be spread throughout the unaffected environment thereby requiring a more extensive treatment. It is also important to point out that medication is to be applied as early as possible in order to prevent the full development of pain as in this case the same effect will require a higher dose of medication.

Death is an integral part of life and quality of life must be optimal to its very end. In no case it should be associated with pain and suffering. Prompt and effective pain treatment is important to all patients, especially to the dying ones.

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