EDITORS

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www.change-pain.com
As chairmen of the International CHANGE PAIN Advisory Board we were honoured to welcome almost 200 pain experts from all over the world at the International CHANGE PAIN Expert Summit in Rome in June 2010. At the meeting we shared insights resulting from the discussions within the advisory panel on how to make current pain management more efficient.

Since there is no consistent treatment approach across Europe, chronic pain is still a burden for sufferers. CHANGE PAIN aims to help healthcare professionals in optimizing current pain management strategies and to achieve better therapeutic outcomes.

The commitments are threefold:
RESEARCH – to generate insights into patients’ needs;
PUBLISH – to communicate findings in scientific publications;
EDUCATE – to improve physicians’ knowledge of pain physiology and treatment.

At the Expert Summit many of the issues relevant to chronic pain were discussed and some of the solutions aiming to support healthcare professionals in daily practice, such as the CHANGE PAIN Scale and the PAIN EDUCATION programme, were presented.

Feedback from the participants confirmed the importance of CHANGE PAIN:
“89% agreed on the key factors for improving chronic pain management as identified by the CHANGE PAIN Advisory Panel”
“91% are willing to support CHANGE PAIN principles in their countries”
“49% agreed that CHANGE PAIN addresses major topics and 48% wanted to contribute their ideas”.

We appreciate your support and invite you to get involved in CHANGE PAIN and contribute your expertise in further developing this initiative in your country.

Professor Giustino Varrassi
President of the European Federation of IASP Chapters (EFIC)

Dr Gerhard H.H. Müller-Schwefe
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Professor Giustino Varrassi

SEVERE CHRONIC PAIN – TREATMENT REALITY IN EUROPE

Severe chronic pain is a considerable burden to the individual and profoundly affects his or her quality of life. It should therefore not just be regarded as an indicator of an underlying disease, but as a problem in its own right.

At present, approximately 1 in 4 of the European population experiences pain that affects the muscles, joints, neck or back, and which has lasted for more than 3 months. However, 40% of patients considered their pain was not well managed and 64% of those taking prescription medication reported that their pain was not always adequately controlled. In addition, almost 70% of participants at the Expert Summit indicated that severe chronic pain is oftentimes undertreated in their countries (see Figure 1).

A consistent approach to chronic pain treatment is lacking across Europe which can be shown by an enormous variation in analgesic consumption, particularly with respect to opioids.

Treatment barriers and challenges

Barriers to the use of strong opioids include healthcare professionals’ lack of knowledge, patients’ fear of stigmatisation and regulatory restrictions. Often, current pain treatment seems to be mainly driven by tradition and personal experience. In addition, the WHO Ladder determines pharmacological treatment solely on pain intensity rather than taking into account that chronic pain is multifactorial in nature.

Optimal pharmacological treatment needs to consider the underlying mechanisms of pain. Besides, a multimodal approach is required, incorporating i.e. physiotherapy, psychological therapy and patient education.

References

Dr Beverly Collett

THE BURDEN OF PAIN

Chronic pain has an impact on all daily activities with high attendant costs for the individual sufferer, health system and society. The major proportion of this economic burden is caused by the negative impact on work productivity and activity.

Chronic pain in the UK:
- 13% of the population suffer from chronic pain¹
- Approximately 25% of chronic pain patients lose their jobs¹
- 22% develop depression¹
- £69 million are spent on total consultations related to oral analgesics and NSAIDs²
- Total annual cost of back pain alone is £12.3 billion³ (Figure 2)

Latest insights
More recent data support the negative financial implications of chronic pain on healthcare expenses. The 2008 National Health and Wellness Survey questioned 53,524 people in France, Germany, Italy, Spain and the UK and found that increasingly severe pain correlated with reductions in physical and mental health, and significantly impaired social functioning⁴. The survey also found that pain sufferers use far more healthcare resources. For example responders with severe pain visited healthcare providers twice as often and were hospitalised three times as often as the general population. In addition, pain sufferers are employed full time only half as often, miss work about 5 times as often and report activity impairment more than twice as high as the general population⁴.

Results of this very interesting survey will soon be published.

References

COMMENTARY

Dr Beverly Collett, Treasurer and Council member of the International Association for the Study of Pain (IASP).

The social, personal and economic costs of inadequately controlled chronic pain are high. For the individual the costs are associated with a marked reduction in quality of life and normal function, while for society in general the associated economic costs are sufficiently high as to affect upon a government’s macro-economic performance.

In order to ensure the best management of an individual patient’s pain it is very important that the outcomes of the discussions of the International CHANGE PAIN Advisory Panel are accessible to a broad medical community. The CHANGE PAIN Expert Summit has been an excellent opportunity to bring together healthcare professionals dealing with pain to inform them about CHANGE PAIN and to invite them to implement the outcomes locally.
Chronic back pain is the commonest type of chronic pain and can occur through nociceptive, neuropathic and inflammatory processes. Approximately 4% of adults experience chronic back pain with a neuropathic component which is caused by damage to the nerve fibres with the pain impulse arising from the neuronal structures. This leads to more intense pain, more co-morbidity and a poorer quality of life.

To assess the neuropathic component is difficult but extremely important if one is to choose the correct pain management therapy for the patient. Differentiating between a neuropathic and nociceptive component can be assisted by using the validated painDETECT questionnaire in patients with back pain. However, a survey among participants at the Expert Summit revealed that only 8.2% used it always while 63.3% never used this questionnaire at all showing that such assessment methods are still not broadly used in daily practice.

**Treatment guidelines**

Through the many guidelines on management of low back pain there is one common factor that is increasingly acknowledged and recommended. This is the multi-modal approach achieved through a combination of drug treatment and other strategies such as exercise, education and psychological counselling. Recent guidelines also address in particular the treatment of neuropathic components. However, there is increasing recognition that chronic back pain treatment with current therapies such as muscle relaxants, NSAIDs, opioids and antidepressants, both singly and in combination, often leads to non-compliance and treatment discontinuation.

In conclusion more targeted treatment will be required to improve individual patient outcomes. Therefore, identification of the individual’s underlying pain mechanisms is crucial but difficult as there is no consistent correlation in patients with back pain. However, the possible components need to be considered in order to choose an adequate treatment option.

**References**

Professor Eija Kalso

THE VICIOUS CIRCLE IN CHRONIC PAIN TREATMENT: BALANCING BETWEEN EFFICACY AND ADVERSE EFFECTS

The pharmacological treatment of severe chronic pain, particularly with classical opioids, is often inefficient because of the difficulty in maintaining a balance between analgesia and adverse effects. In routine clinical settings, 50% of chronic pain patients currently receive inadequate pain relief and many discontinue treatment because of adverse effects. This continuous burden to patients is described by the Vicious Circle (see Figure 2) in which the patient alternates between adequate pain relief but unacceptable side effects, and acceptable side effects but inadequate pain relief, leading to poor compliance and treatment discontinuations. Once the Vicious Circle is established it will continue until a balance is achieved between sufficient analgesia and acceptable tolerability.

Factors leading to the Vicious Circle include the wrong choice of drug treatment for the underlying pain mechanisms, interactions between co-administered drugs which can reduce analgesic efficacy, or the development of analgesic tolerance. Withdrawal from the opioid treatment most frequently follows adverse effects rather than lack of efficacy, reducing patient’s quality of life and compliance with therapy.

In order to handle the limitations of today’s treatment options and to improve pain management, physicians should treat adverse events, titrate pain medication carefully and besides consider non-pharmacological therapies and individual patient’s needs.

References

COMMENTARY

Professor Eija Kalso, President-elect of the International Association for the Study of Pain (IASP), Finland

Clinical evidence has shown that the main reasons for treatment discontinuation are adverse effects, particularly in the beginning of the treatment, and lack of efficacy in the long-run. A severe pain patient trapped in the Vicious Circle therefore has to make a trade-off between harm and benefit. Increasing awareness of the Vicious Circle among physicians could improve pain management and reduce treatment discontinuation.

I personally believe that it is important to motivate physicians attending the Expert Summit to establish CHANGE PAIN locally in order to reach those colleagues who were not able to participate at this meeting. In this way we can all help improve chronic pain management in Europe.
SURVEY OF CHRONIC PAIN MANAGEMENT

The CHANGE PAIN Physician Survey to explore physicians’ views on chronic non-cancer pain and its treatment was initiated at the 2009 EFIC Congress. The survey is still ongoing but first results from 1,761 responders are now available on the CHANGE PAIN website (www.change-pain.com). These indicate that there are still a number of unmet medical needs when treating severe chronic non-cancer pain patients. The results also showed that healthcare professionals have no common understanding of what constitutes severe pain on a numerical rating scale; most respondents consider severe pain to begin somewhere between scores of 5 and 8.

The main groups of responders were primary care physicians and pain specialists, whose views differed as follows:

- Primary care physicians consider efficacy the main criterion when choosing an analgesic, whereas pain specialists favour a balance between efficacy and side effects.
- Two-thirds of primary care physicians never or only sometimes use classical strong opioids for severe chronic non-cancer pain, whereas half the pain specialists use them often or very often and only 9% never do so. They all agreed that the main limiting factor is gastrointestinal side effects.
- 65% of pain specialists use specific opioids for long-term treatment (>3 months) whereas treatment duration by the primary care physicians is generally lower.

Most of the respondents thought there was a lack of knowledge of the pharmacology of analgesics in the medical community which included not fully appreciating the differences between nociceptive and neuropathic pain, the latter being widely regarded as the more difficult to treat. Severe chronic low back pain is generally treated with combination therapy, but no fewer than 161 different combinations have been mentioned by the 1,761 respondents. Asked about their own treatment approach for severe chronic low back pain the participants of the Expert Summit emphasized the importance of combining different drug classes to address the underlying mechanisms. Roughly 53% usually combine two agents from different drug classes and 41% physicians use even more than two agents from different drug classes.

The initial results of the CHANGE PAIN Physician Survey are currently being prepared for publication. You are welcome to participate in the survey at www.change-pain.com.

COMMENTARY

Dr Andrew Nicolaou, St Georges Hospital, London, UK

The results of the CHANGE PAIN Survey confirm that there are still many unmet medical needs in managing severe chronic non-cancer pain. The CHANGE PAIN Expert Summit was an extremely important meeting as it brought together a large group of experts in managing pain who had the wealth of knowledge to address these urgent needs. The sessions inspired the discussion which I believe is what we need to ensure an agreed joint approach to efficient pain management.
Professor Anthony Dickenson

THE NEUROPHARMACOLOGY OF PAIN AND ITS CONTROL

Signals that lead to pain are transmitted via a highly complex series of nerve pathways from the periphery to the central nervous system where the sensory and emotional aspects are perceived. There is also descending pathways from the brain to the spinal cord which use neurotransmitters like noradrenaline and serotonin to alter synapses in the spinal cord where the ascending and descending pathways meet. While noradrenaline inhibits pain, serotonin has either excitatory or inhibitory functions1.

Nociceptive vs. neuropathic pain
Pain caused by the presence of a painful stimulus, natural or chemical, able to activate nociceptors (free nerve endings) is called nociceptive pain and pain that is caused by a disruption of neural systems is called neuropathic pain. Some of the most baffling types of chronic pain, such as diabetic neuropathy, phantom limb pain and post-herpetic neuralgia are neuropathic in origin. A significant proportion of patients suffering from chronic low back pain or cancer pain have mixed pains, where there are both nociceptive and neuropathic components. In order to target the multiple pain mechanisms simultaneously, a combination of drugs with different mode of actions could be used2.

Analgesic action
Opioids bind to opioid receptors in the central nervous system, modulating the pathways involved in the generation, transmission, and modulation of pain impulses and the experience of pain.

Antidepressants, which are used commonly in the treatment of neuropathic pain, mainly include tricyclic antidepressants (TCAs) and serotonin noradrenaline reuptake inhibitors (SNRIs). They affect the two neurotransmitters noradrenaline and serotonin by blocking uptake and increasing synaptic concentrations. But since TCAs and SNRIs are effective whereas selective serotonin reuptake inhibitors (SSRIs) are less, the importance of noradrenaline in pain inhibition can be assumed3.

Anticonvulsants include various classes of drugs with different mechanisms of action. Common features are the inhibition of neuronal excitation or transmitter release through actions on sodium and calcium channels. With regard to pain therapy their main indication is neuropathic pain.

The need for a better understanding of the pharmacological principles of pain and its control was confirmed by the pain specialists attending the summit; more than 90% believed that the broader medical community had only a basic or poor knowledge (Figure 3).

References

The CHANGE PAIN initiative is highly relevant because it addresses these aspects and is establishing educational programmes to train healthcare professionals on pain physiology and pathophysiology of pain mechanisms. Improving the knowledge in these areas will lead to better and more effective treatment.

COMMENTARY

Professor Anthony Dickenson, University College, London, UK

There was a general agreement at the CHANGE PAIN Expert Summit over the limited awareness of the pharmacological principles of pain and of the specific pharmacological options available.
Chronic pain is multifactorial in nature where both nociceptive and neuropathic pain often occur simultaneously and is seldom controlled by one drug. While assessing chronic pain patients the possibility of the diverse mechanisms underlying the pain need to be considered rather than classifying patients on the basis of common diseases like osteoarthritis or low back pain. Identifying these mechanisms is in many cases difficult due to the inconsistent symptoms but important for an accurate diagnosis to ensure effective drug treatment.

The rationale for mechanism-oriented treatment is based on a number of elements:

- Pain can be caused by multiple, different mechanisms;
- pain is processed by multiple excitatory and inhibitory systems;
- drug efficacy may vary according to the underlying system;
- analgesia may be achieved by drugs that either block excitatory systems or activate inhibitory systems;
- individual patients may have multiple mechanisms that need to be addressed by different pharmacological agents.

The use of different drugs (either loose or fixed combination doses) with different mechanisms of action is the most popular method of pharmacological pain treatment. This approach, although effective in interrupting the pain signals, can also increase the dangers of side effects. Thus, strong acting drugs that address both underlying mechanisms, combined with a promising tolerability profile would represent a significant advancement in the pharmacological management of chronic pain.

References
Educating healthcare professionals on the adequate use of analgesics based on underlying pain mechanisms have been identified as a crucial part of CHANGE PAIN. Evidence suggests that medical training of pain management at both undergraduate and postgraduate level is insufficient. An electronic poll carried out with participants at the CHANGE PAIN Expert Summit confirmed these findings with more than half having received no teaching on pain management during their university education, while just over a third had received less than 10 hours education (Figure 4).

To address these problems the CHANGE PAIN expert group has devised a new educational programme called PAIN EDUCATION. It comprises an online learning course which can be adapted to different individual and national requirements. Part of the course consists of three electronic modules on Continuing Medical Education (eCME) each of which takes one hour to complete and earns one European CME credit. Three modules are now available:

Module 1 deals with pain assessment and communication between physician and patient. The multidimensional assessment of chronic pain is emphasized together with the importance of individual patient-centred treatment goals.

Module 2 looks at the multimodal management of chronic pain. The benefits and side effects of different drugs are discussed including use of other therapies such as physiotherapy, psychological treatment and patient education.

Module 3 includes an in-depth review of mechanism-orientated pharmacological treatment of chronic pain and how to identify causative mechanisms and emphasizing the importance of initiating early treatment.

The international eCME modules are now available on the website www.change-pain.com and national modules will be accessible via local websites.

References
One of the main reasons for inadequate pain control in chronic pain patients can be poor understanding of the physician with regard to the patient’s situation1. This is usually caused by poor communication between physicians and patients. Patients may be reluctant to report pain due to low expectations of obtaining effective analgesia or they may fear drug-related adverse events2.

Careful patient assessment and the definition of individual treatment targets will lead to effective pain management3 and at the same time will build up mutual trust and respect between patients and physicians. To achieve this, physicians require a good understanding of their patients’ level of pain and its effect on quality of life. There are various methods of measuring pain levels in patients but since these are usually time consuming and subjective they are rarely used in daily practice. This has been confirmed by the results of an electronic poll at the CHANGE PAIN Expert Summit: about 42% of the participants thought that pain scales are used in less than 30% of patients while roughly 30% thought they were used in less than 10%. According to the majority of the participants (71.3%) pain questionnaires are used by less than 10% of patients.

To help improve physician-patient communication the International CHANGE PAIN Advisory Panel has devised the CHANGE PAIN Scale. This is a new user-friendly communication tool aimed at assessing pain via a more holistic approach, taking into account patient’s expectations on pain relief and quality of life improvement. This information will help the physician to choose the right therapy for the individual patient. In addition it can help to establish treatment goals and to monitor progress.

For more information about the CHANGE PAIN Scale visit the website www.change-pain.com.

References

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LISTEN TO THE PRESENTATIONS OF THE EXPERT SUMMIT

- Professor Giustino Varrassi, Italy
- Dr med Gerhard H.H. Müller-Schwefe, Germany
- Professor Bart Morlion, Belgium
- Professor Eija Kalso, Finland
- Professor Michael Schäfer, Germany
- Dr Beverly Collett, UK
- Dr Andrew Nicolaou, UK
- Professor Anthony Dickenson, UK
- Professor Joseph Pergolizzi, USA

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