北中區疼痛治療討論會

報名連結:

時間：2021/10/30 (六) 下午 15:00~18:00

地點：長榮桂冠酒店 (台中市台灣大道二段 666 號)

3F 牡丹廳

Time	Topic	Speaker	Moderator
15:00~15:20	Registration		
15:20~15:30	Opening	陳坤堡 醫師 中國附醫	
15:30~16:00	聽見癌症患者的疼痛之音	蔡明宏 醫師 中國附醫	白禮源 醫師 中國附醫
16:00~16:30	癌症疼痛治療藥物新進展	歐陽欣漢 醫師 中國附醫	洪至仁 醫師 台中榮總
16:30~16:45	Coffee break		
16:45~17:15	無痛醫院評鑑經驗分享	吳志成 醫師 台中榮總	謝宜哲 醫師 彰化基督教醫院
17:15~17:45	介入性治療新知分享	周韋翰 醫師 臺大醫院	林至芃 醫師 臺大醫院
17:45~18:00	Panel Discussion & Closing	溫永銳 醫師 中國附醫	
18:00~	晚宴 (視疫情狀況調整)		

* 主辦單位：中國醫藥大學附設醫院
* 協辦單位：台灣疼痛醫學會
* 贊助單位：台灣東洋藥品工業股份有限公司
* 報名方式：本活動限邀請名單參加
* 預計學分申請:

台灣疼痛醫學會、中華民國癌症醫學會腫瘤內科、台灣癌症安寧緩和醫學會

台灣疼痛醫學會

<北中區疼痛治療討論會>

Speech Abstract

主辦單位: 中國附醫

Topic

聽見癌症患者的疼痛之音

中國附醫血液腫瘤科 蔡明宏醫師

Abstract

Pain is one of the most common symptoms in cancer patients and often has a negative impact on patients' functional status and quality of life. The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage."[1] Breakthrough cancer pain (btcp) represents an important element in the spectrum of cancer pain management. Because most btcp episodes peak in intensity within a few minutes, speed of medication onset is crucial for proper control.

Unmet needs exist in clinical practice. The onset and duration of action of oral opioids such as morphine or oxycodone may not be suitable for treating many episodes of BTcP which are of short onset and duration.[2] Although IV morphine is an effective method to provide fast analgesia for BTcP, it only can be used in the hospital or hospice care.[2,3]

The optimal cancer pain treatment should both consider the control of background pain and breakthrough cancer pain. Rapid onset opioids, a new category of analgesics, are characterized by fast onset, short duration and rapid elimination. [4] Combining long acting opioid and rapid onset opioid would be an optimal choice for cancer pain treatment.

Although there are many opioid medications available in Taiwan, most of Taiwanese patients is afraid of expressing their painful experiences. From the perspectives of a medical oncologist, Dr. Tsai will share some personal experiences in pain control, how to ask patients and how to modify their pain medications.

Reference:

1. Merskey H, Bogduk N, eds.: Classification of Chronic Pain: Description of Chronic Pain Syndromes and Definitions of Pain Terms. 2nd ed. Seattle, Wash: IASP Press, 1994. Also available online. Last accessed April 13, 2017.

2. Mercadante S. Drugs. 2012;72(2):181-90.

3. Nersesyan H, Slavin KV. Ther Clin Risk Manag. 2007;3(3):381-400

4. Smith, H. (2012). "A comprehensive review of rapid-onset opioids for breakthrough pain."CNS Drugs **26**(6): 509-535.

Topic

癌症疼痛治療藥物新進展

中國附醫 歐陽欣漢醫師

Abstract

Breakthrough cancer pain (BTcP) represents an important element in the spectrum of cancer pain management. Because most BTcP episodes peak in intensity within a few minutes, speed of medication onset is crucial for proper control.

Breakthrough pain (BTP) has been defined as 'a transitory exacerbation of pain experienced by the patient who has relatively stable and adequately controlled baseline pain' [1]. Breakthrough pain can be divided into spontaneous pain at rest and incident pain (either volitional or non-volitional) [2,3]. Breakthrough pain was present in 75% of cases of cancer-induced bone pain [4]. Patients with breakthrough pain had greater interference on aspects of life (mood, relationships, sleep, activity, walking ability, work, enjoyment of life) than those with no breakthrough pain (P<0.01) [5,6]. Almost half of breakthrough pain episodes were rapid in onset (<5 min) and short in duration (<15 min) [5,6]. Forty-four per cent of patients with breakthrough pain had pain that was unpredictable [5,6]. The short spiking characteristics of BTP episodes make the successful treatment of cancer-induced bone pain particularly challenging, which is supported by studies revealing that up to 45% of patients with cancer-induced bone pain report poor pain control [6-8].

Currently, immediate-release oral opioids are the treatment of choice for BTcP. This approach might not always offer optimal speed for onset of action and duration to match the rapid nature of an episode of BTcP. Novel transmucosal fentanyl formulations might be more appropriate for some types of BTcP, but limited access to such drugs hinders their use. In addition, the recognition of BTcP and its proper assessment, which are crucial steps toward appropriate treatment selection, remain challenging for many health care professionals.

Reference:

5. Portenoy RK, Forbes K, Lussier D, et al. Difficult pain problems: an integrated approach. In: Doyle D, Hanks G, Cherny NI, Calman K editors. Oxford textbook of palliative medicine. Oxford : Oxford University Press;2004:438-58.

6. Colvin L, Fallon M. Challenges in cancer pain management--bone pain. Eur J Cancer 2008;44:1083-90.

7. Mercadante S, Arcuri E. Breakthrough pain in cancer patients: pathophysiology and treatment. Cancer Treat Rev 1998;24:425-32.

8. Laird BJ, Walley J, Murray G, et al. What is the key question in the assessment of cancer induced bone pain: results from a characterization study. London: British Pain Society Annual Scientific Meeting,2009.

9. Laird BJ, Walley J, Murray GD, et al. Characterization of cancer-induced bone pain: an exploratory study. Support Care Cancer 2011;19:1393-401.

10. Middlemiss T, Laird BJ, Fallon MT. Mechanisms of cancer-induced bone pain. Clin Oncol (R Coll Radiol) 2011;23:387-92.

11. de Wit R, van Dam F, Loonstra S, et al. The Amsterdam Pain Management Index compared to eight frequently used outcome measures to evaluate the adequacy of pain treatment in cancer patients with chronic pain. Pain 2001;91:339-49.

Meuser T, Pietruck C, Radbruch L, et al. Symptoms during cancer pain treatment following WHO-guidelines

主題

無痛醫院評鑑經驗分享

臺中榮民總醫院 吳志成主任

摘要

醫策會疾病照護品質認證定位乃在醫院評鑑基礎之上，以疼痛照護團隊為主，期待透過認證，打破醫院院內各單位之本位主義，促使跨領域及跨部門的整合，並導入新的醫療技術及照護模式，以維持病人生活品質並符合成本效益，進以提升病人/家屬滿意度及照護價值，展現團隊照護特色及價值。醫策會『疼痛照護照護品質認證』著重面向如下：

(一) 安排專家實地至機構提供專業建議並進行交流，且認證通過後，提供輔導措施，以持續協助機構進行改善與精進。

(二) 依據國內外臨床照護指引，訂定符合機構特色之醫療照護計畫，且須有生活習慣衛教相關健康促進活動。

(三) 強調專業的醫療照護團隊，並有橫向跨領域及縱向整合。

1. 跨領域全人照護，團隊合作與運作的緊密度。 2. 強調個案管理連結重要性，能依病人需求，提供適時、適切、完整的出院照護計畫與指導。

(四) 確保醫師及病人依循臨床照護指引遵從性。

(五) 運用新的醫療技術及照護模式，以維持病人的生活品質及降低臨床照護成本。

(六) 適時有效做疼痛評估與原因診斷。

(七) 依據診斷使用適當的止痛方式，例如：藥物、復健、心理支持、介入性治療、手術等，以達到最佳的疼痛控制。

(八) 積極並主動處理疼痛處置之副作用。

(九) 重視病人參與及回饋，如：醫療共享決策 SDM、病人權利義務、病人/家屬滿意度。

(十) 重視醫療照護結果：病人生活品質、成本效益、病人出院後再入院率等。

(資料來源: 醫策會 09.疼痛照護照護品質認證簡介)

演講中，將分享臺中榮民總醫院對於疼痛照護品質認證的準備歷程、目前成效，以及未來期許等，並與各院進行交流。

主題

介入性治療新知分享

臺大醫院 周韋翰醫師

摘要

疼痛是癌症患者最常見的症狀之一，常常對患者的功能狀態和生活品質產生負面影響。國際疼痛研究協會將疼痛定義為“與實際或潛在的組織損傷相關的，令人不快的感覺和情緒體驗，或者根據這種損傷來描述。疼痛通常由癌症患者經歷，其適當的評估需要靠疼痛強度之測量;了解痛苦對患者心理，社會，精神和生存領域的影響;並建立治療依從性和反應能力。

疼痛發生在20～50％％的癌症患者，大約80％的晚期癌症患者有中度至重度疼痛。一項分析來自52項研究的總數據發現，一半以上的患者患有疼痛。年齡較年輕的患者比老年患者更容易發生癌症疼痛和疼痛發作。癌症患者經常有多個疼痛部位。患者在NRS評分為4-6級（嚴重），惡化程度高達7級。

癌症疼痛可以是傷害性或神經性，患者經常出現混合傷害性/神經病變性疼痛之類型；疼痛患者神經病變性疼痛的患病率估計為11.8％至33％，但發生率可能更高，因為混合性疼痛患者未納入神經病變性疼痛之計算中，故整體而言，神經病變性疼痛在癌症病人當中，是不容忽視的議題。此外，神經病變性疼痛可能導因於手術、放射治療或化療等，然而在某些情況下可能會跟癌症本身無關，乃由病人之伴隨疾病引起。癌症疼痛的藥理學治療通常遵循世界衛生組織的止痛劑用於癌症疼痛緩解；然而，這種方法往往無法完全緩解神經病變性疼痛，故很多時後會需要輔助性藥品如抗癲癇藥品、抗憂鬱藥品等進行協助。然而不幸的是，在現有這些藥品的協助下，仍會有部分病患無法順利獲得疼痛緩解，此時便需要考慮其餘侵入性治療，包含脊髓腔注射嗎啡、神經阻斷術、神經燒灼術等等，一方面能降低該病患使用鴉片類藥品的劑量，也能提升病患抗癌旅途的生活品質。

Reference:

12. McGeeney BE. Adjuvant agents in cancer pain. Clin J Pain. 2008;24:S14–S20. [PubMed]

13. Caraceni A, Portenoy RK. An international survey of cancer pain characteristics and syndromes. Pain. 1999;82:263–274. [PubMed]

14. Grond S, Radbruch L, Meuser T, Sabatowski R, Loick G, Lehmann KA. Assessment and treatment of neuropathic cancer pain following WHO guidelines. Pain. 1999;79:15–20. [PubMed]Laird BJ, Walley J, Murray G, et al. What is the key question in the assessment of cancer induced bone pain: results from a characterization study. London: British Pain Society Annual Scientific Meeting,2009.

15. Jain PN, Chatterjee A, Hom Choudhary A, Sareen R. Prevalence, etiology, and management of neuropathic pain in an Indian cancer hospital. J Pain Palliat Care Pharmacother. 2009;23:114–119. [PubMed]

16. Bhatnagar S, Mishra S, Roshni S, Gogia V, Khanna S. Neuropathic pain in cancer patients – prevalence and management in a tertiary care anesthesia-run referral clinic based in urban India. J Palliat Med. 2010;13:819–824. [PubMed]

17. García de Paredes ML, del Moral González F, Martínez del Prado P, et al. First evidence of oncologic neuropathic pain prevalence after screening 8615 cancer patients. Results of the On study. Ann Oncol. 2011;22:924–930. [PubMed].

18. Lema MJ, Foley KM, Hausheer FH. Types and epidemiology of cancer-related neuropathic pain: the intersection of cancer pain and neuropathic pain. Oncologist. 2010;15(Suppl 2):3–8. [PubMed]

19. Urch CE, Dickenson AH. Neuropathic pain in cancer. Eur J Cancer. 2008;44:1091–1096. [PubMed]

20. World Health Organization. Cancer: WHO's pain ladder. [Accessed July 5, 2011]. Available from: http://www.who.int/cancer/palliative/painladder/en.

21. Thapa D, Rastogi V, Ahuja V. Cancer pain management – current status. J Anaesthesiol Clin Pharmacol. 2011;27:162–168. [PMC free article] [PubMed]

22. Hans GH, Robert DN, Van Maldeghem KN. Treatment of an acute severe central neuropathic pain syndrome by topical application of lidocaine 5% patch: a case report. Spinal Cord. 2008;46:311–313. [PubMed]

23. Fleming JA, O'Connor BD. Use of lidocaine patches for neuropathic pain in a comprehensive cancer centre. Pain Res Manag. 2009;14:381–388. [PMC free article] [PubMed]

Cheville AL, Sloan JA, Northfelt DW, et al. Use of a lidocaine patch in the management of postsurgical neuropathic pain in patients with cancer: a phase III double-blind crossover study (N01CB) Support Care Cancer. 2009;17:451–460. [PubMed]

Curriculum Vitae

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Publication**:**

1. Ming-Hung Tsai, Yu-Ping Hsiao, Wea-Lung Lin, Szu-Wen Tseng. Steatocystoma multiplex as initial impression of non-small cell lung cancer with complete response to gefitinib. Chin J Cancer Res. 2014 Feb; 26(1): E5–E9.
2. Ming-Hung Tsai , Ming-Fang Wu, Wen-Shan Liu, Tzu-Chin Wu, Szu-Wen Tseng . Long-Term Survival after Induction Therapy Followed by Concurrent Target-Radiotherapy of an Unresectable Stage IIIB Non-Small Cell Lung Cancer Patient. Therapeut Radiol Oncol 2014; 21(1): 63-70.

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Publications：(近五年)

1. Chen WY, Mao FC, Liu CH, Kuan YH, Lai NW, **Wu CC,** Chen CJ. Metab Brain Dis. 2016 ;31(2):289-97. Chromium supplementation improved post-stroke brain infarction and hyperglycemia.
2. ChangYT, **Wu CC**, Tang TY, Lu CT, Lai CS, Shen CH. PLoS One. 2016 Feb 5;11(2):e0147713. Differences between Total Intravenous Anesthesia and Inhalation Anesthesia in Free Flap Surgery of Head and Neck Cancer.
3. Li JR, **Wu CC**, Chang CY, Ou YC, Lin SY, Wang YY, Chen WY, Raung SL, Liao SL, Chen CJ. IUBMB Life. 2017;69(2):79-87.Susceptibility of naïve and differentiated PC12 cells to Japanese encephalitis virus infection.
4. Wang YY, Lin SY, Chen WY, Liao SL, **Wu CC,** Pan PH, Chou ST, Chen CJ. J Ethnopharmacol. 2017;204:58-66. Glechoma hederacea extracts attenuate cholestatic liver injury in a bile duct-ligated rat model.
5. **Wu CC,** Hung CJ, Lin SY, Wang YY, Chang CY, Chen WY, Liao SL, Raung SL, Yang CP, Chen CJ. Neurochem Int. 2017;110:91-100. Treadmill exercise alleviated prenatal buprenorphine exposure-induced depression in rats.
6. Chang CY, Li JR, **Wu CC**, Wang JD, Yang CP, Chen WY, Wang WY, Chen CJ.Exp Cell Res. 2018;365(1):66-77. Indomethacin induced glioma apoptosis involving ceramide signals.
7. Chen WY, Chang CY, Li JR, Wang JD, **Wu CC**, Kuan YH, Liao SL, Wang WY, Chen CJ.Int J Mol Sci. 2018;19(11).E3678.Anti-inflammatory and Neuroprotective Effects of Fungal Immunomodulatory Protein Involving Microglial Inhibition.
8. Li JR, Ou YC, **Wu CC**, Wang JD, Lin SY, Wang YY, Chen WY, Chen CJ. . IUBMB Life. 2019;71(3):321-329. Ischemic preconditioning improved renal ischemia/reperfusion injury and hyperglycemia.
9. Yen-Chuan Ou, Jian-Ri Li, Jiaan-Der Wang, Cheng-Yi Chang, **Chih-Cheng Wu,** Wen-Ying Chen, Yu-Hsiang Kuan, Su-Lan Liao, Hsi-Chi Lu and Chun-Jung Chen. Int J Mol Sci. 2019 Jun 7;20(11).Fibronectin Promotes Cell Growth and Migration in Human Renal Cell Carcinoma Cells.
10. Shih-Chieh Yang, **Chih-Cheng Wu**, Yun-Jui Hsieh.Medicine (Baltimore). 2019

Nov;98(44):e17790. Left stellate ganglion block, a rescue treatment for ventricular arrhythmia refractory to radiofrequency catheter ablation: A care-compliant case report. YangSC, Wu CC, Hsieh YJ.

11. Cheng-Yi Chang, Jian-Ri Li, **Chih-Cheng Wu**, Jiaan-DerWang, Su-Lan Liao, Wen-Ying Chen, Wen-YiWang and Chun-Jung Chen.Int J Mol Sci. 2020 Jan 15;21(2). pii: E557.Endoplasmic Reticulum Stress Contributes to Indomethacin-Induced Glioma Apoptosis.
12. Lin SH, **Wu CC**, Hung CJ. J Chin Med Assoc. 2020 May;83(5):510. Use DN4-T to Rule Out Non-Neuropathic Pain.
13. Jiaan-Der Wang, Wen-Ying Chen Jian-Ri Li, Shih-Yi Lin, Ya-Yu Wang, **Chih-Cheng Wu**, Su-Lan Liao, Chiao-Chen Ko and Chun-Jung Chen.Cells. 2020 Feb 28;9(3). pii: E569. doi: 10.3390/cells9030569.Aspirin Mitigated Tumor Growth in Obese Mice Involving Metabolic Inhibition.
14. **Chih-Cheng Wu**, Cheng-Yi Chang, Kuei-Chung Shih, Chih-Jen Hung, Ya-Yu Wang , Shih-Yi Lin, Wen-Ying Chen, Yu-Hsiang Kuan, Su-Lan Liao, Wen-Yi Wang and Chun-Jung Chen. Int J Mol Sci. 2020 May 29; 21(11), 3866. β -Funaltrexamine Displayed Anti-inflammatory and Neuroprotective Effects in Cells and Rat Model of Stroke.
15. Shih-Yi Lin, Ya-Yu Wang, Cheng-Yi Chang, **Chih-Cheng Wu**, Wen-Ying Chen, Yu-Hsiang Kuan, Su-Lan Liao and Chun-Jung Chen*. Cells. 2020 Jun 1;9(6).1373. Effects of β-Adrenergic Blockade on Metabolic and Inflammatory Responses in a Rat Model of Ischemic Stroke.
16. **Chih-Cheng Wu**, Chih-Jen Hung, Ya-Yu Wang, Shih-Yi Lin, Wen-Ying Chen,Yu-Hsiang Kuan, Su-Lan Liao, Ching-Ping Yang, and Chun-Jung Chen. Molecules 2020; 25(14): 3229. Propofol Improved Glucose Tolerance Associated with Increased FGF-21 and GLP-1 Production in Male Sprague-Dawley Rats.
17. Ya-Yu Wang, Cheng-Yi Chang, Shih-Yi Lin, Jiaan-Der Wang, **Chih-Cheng Wu**, Wen-Ying Chen, Yu-Hsiang Kuan, Su-Lan Liao, Wen-Yi Wang, Chun-Jung Chen.J Nutr Biochem. 2020;83:108436. Quercetin protects against cerebral ischemia/reperfusion and oxygen glucose deprivation/reoxygenation neurotoxicity.
18. Chieh-Liang Wu, Yin-Lurn Hung, Yan-Ru Wang, Hui-Mei Huang, Chia-Hui Chang , **Chih-Cheng Wu**, Chih-Jen Hung, Te-Feng Yeh. PLoS One. 2020 Dec

7;15(12):e0243574. Pain prevalence in hospitalized patients at a tertiary academic medical center: Exploring severe persistent pain.

19. **Cheng-Yi Chang1, Chih-Cheng Wu1**, Jiaan-Der Wang, Jian-Ri Li, Ya-Yu Wang, Shih-Yi Lin, Wen-Ying Chen, Su-Lan Liao, Chun-Jung Chen.Brain Behav Immun. 2021;93:194-205.DHA Attenuated Japanese Encephalitis Virus Infection-Induced Neuroinflammation and Neuronal Cell Death in Cultured Rat Neuron/glia.
20. Shih-Yi Lin, Ya-Yu Wang, Cheng-Yi Chang, **Chih-Cheng Wu**, Wen-Ying Chen, Su-Lan Liao, Chun-Jung Chen. Antioxidants (Basel). 2021 May 26;10(6):851.TNF-α Receptor Inhibitor Alleviates Metabolic and Inflammatory Changes in a Rat Model of Ischemic Stroke Affiliations expand.

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