

Clinical regularities in acupuncture-moxibustion treatment of cancer pain in recent 30 years

近 30 年针灸治疗癌性疼痛临床规律评述

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Abstract

Objective: To explore the clinical regularities in acupuncture-moxibustion treatment of cancer pain by reviewing the relevant studies published between 1985 and 2017.

Methods: Based on the *Chinese Medicine Acupuncture-moxibustion Information Database*, quantitative analysis, correlation analysis and Chi-square test were applied to analyze the commonly used acupoints, meridian affiliations and body region distributions, commonly used methods and acupoint correlations, treatment method correlations, the efficacy of acupuncture-moxibustion plus the three-step analgesic ladder for cancer pain, and indicators.

Results: Zusanli (ST 36), Ashi point and Sanyinjiao (SP 6) ranked the top on the list of frequency; points from Bladder Meridian of Foot Taiyang and Stomach Meridian of Foot Yangming were often used; points from the lower limbs and back had high frequencies. The most commonly used treatment method was acupuncture-moxibustion plus medication. Acupuncture-moxibustion plus the three-step analgesic ladder showed certain advantage compared with the two methods used separately, and among the integrated methods, acupoint application plus the three-step analgesic ladder produced the most significant efficacy. It took (44.77±55.54) min for the analgesic effect to act and the effect lasted for (12.81±14.59) h. Numerical rating scale (NRS), visual analog scale (VAS) and Karnofsky performance status (KPS) scores all showed significant changes after interventions (all $P<0.01$); there was no significant change in the score of quality of life (QOL) after interventions ($P>0.05$).

Conclusion: Zusanli (ST 36), Ashi point and Sanyinjiao (SP 6) are commonly selected in acupuncture-moxibustion treatment of cancer pain; acupuncture and acupoint application are often used; acupuncture-moxibustion plus the three-step analgesic ladder can boost the treatment efficacy.

Keywords: Acupuncture Therapy; Moxibustion Therapy; Acupuncture-moxibustion Therapy; Cancer Pain; Databases (Traditional Chinese Medicine); Pain Measurement; Karnofsky Performance Status (KPS); Bibliometrics

【摘要】目的: 回顾 1985 年至 2017 年有关针灸治疗癌性疼痛文献, 探索针灸治疗癌性疼痛的临床规律。**方法:** 根据《中医针灸信息库》, 采用计量分析、关联性分析和卡方检验对针灸治疗癌性疼痛的常用穴位、腧穴归经和部位分布、常用治疗方法及穴位关联性、治疗方法关联性、针灸结合三阶梯治疗癌性疼痛的疗效及效应指标进行分析。**结果:** 足三里、阿是穴和三阴交应用频次最高; 多用足太阳膀胱经和足阳明胃经穴; 下肢穴位和背部穴位使用频次最高。治疗方法以针药并用为主, 针灸结合三阶梯疗法优于单纯三阶梯疗法和单纯针灸疗法, 其中穴位贴敷结合三阶梯疗效更明显。癌性疼痛缓解起效时间为(44.77±55.54) min; 缓解持续时间为(12.81±14.59) h。治疗前后疼痛数字评价量表(NRS)、视觉模拟量表(VAS)和卡氏行为状态量表(KPS)评分比较, 差异均有统计学意义(均 $P<0.01$); 生活质量(QOL)评分治疗前后比较, 差异无统计学意义($P>0.05$)。**结论:** 针灸治疗癌性疼痛常取足三里、阿是穴和三阴交; 多用针刺和穴位贴敷法; 针灸结合三阶梯止痛法可提高疗效。

【关键词】 针刺疗法; 灸法; 针灸疗法; 癌性疼痛; 中医药信息数据库; 疼痛测评; 卡氏功能状态; 文献计量学

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In 1985, Lu Xiao-shi, *et al* from Shanghai Prevention and Treatment Center of Tuberculosis once published a paper entitled *Acupoint Block with Plucaine for Late-stage Cancer Pain in Zhongguo Zhen Jiu*, which

had opened the prelude to the study of acupuncture-moxibustion for cancer pain^[1]. The standardized incidence ratio (SIR) of malignant tumors in Chinese population was 190.17/100 000 in 2013, higher than 186.15/100 000 on a global level; the cumulative incidence (0-74 years old) was 21.6%; the incidence was higher in urban areas than in rural areas^[2]. Of all the

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symptoms that may develop in cancer, pain is the most common and difficult one, severely affecting the patients' quality of life (QOL). Through literature analysis of acupuncture treatment of cancer pain in the past 30 years, this paper aimed to summarize its clinical rules and provide evidence for studying cancer pain treated with acupuncture-moxibustion.

1 Materials and Methods

The *Chinese Medicine Acupuncture-moxibustion Information Database* has indexed 78 040 acupuncture literatures, including 237 literatures related to cancer pain treated with acupuncture-moxibustion. In order to improve the quality, the involved complicated acupuncture-moxibustion terms have been unified and standardized in the database. The disease terminologies have referred to the *Medical Subject Headings* (MeSH version 2017)^[3], *Medical Subject Headings Annotated Alphabetic List* (MeSHAAL)^[4] and *Chinese Traditional Medicine and Materia Medica Subject Headings List*^[5]; the treatment methods have referred to the *Chinese Traditional Medicine and Materia Medica Subject Headings List*^[5]; acupoints were all in accordance with the *Nomenclature and Location of Acupuncture Points* (GB/T 12346-2006)^[6]; ear points all conformed to the *Nomenclature and Location of Ear Acupuncture Points* (GB/T13734-2008)^[7]; scalp points were according to the *Standardized Manipulations of Acupuncture and Moxibustion-Part 2: Scalp Acupuncture* (GB/T21709.2-2008)^[8]. This database has provided an ideal platform for retrieving acupoints, acupuncture-moxibustion therapies, efficacies and systematic evaluations.

1.1 Literature source

The literatures published before 2013 were provided by the *Chinese Medicine Acupuncture-moxibustion Information Database* (software registration number: 0980769) developed by Shanghai Research Institute of Acupuncture and Meridian. The acupoints selected and treatments used for a certain disease were analyzed based on the statistics section of the database, by inputting the reference disease name or code, such as 'pain/tumor or 1460'.

The literatures published between January 2014 and December 2017 were searched from China National Knowledge Infrastructure (CNKI), Wanfang Academic Journal Full-text Database (Wanfang) and Chongqing VIP Database (CQVIP). The main retrieval terms were 'acupuncture', 'acupuncture-moxibustion', 'needle', 'moxibustion', 'ear', 'acupoint', 'point', 'application', 'sticking', 'thread embedding', 'electrical stimulation', 'cancerous pain', 'cancer pain', and 'tumor'. The search strategy was developed by subjects, titles or key words linked by AND or OR. The data obtained from the above databases were put into the *Chinese Medicine Acupuncture-moxibustion Information Database*.

All the literatures on acupuncture-moxibustion treatment of cancer pain found in the *Chinese Medicine Acupuncture-moxibustion Information Database* were screened after output.

1.2 Literature screening criteria

1.2.1 Literature inclusion criteria

The general inclusion criteria for literatures on acupuncture-moxibustion treatment of cancer pain: papers studying acupuncture-moxibustion treatment of cancer pain and the type of paper was not limited; the type of research was not limited; the acupuncture-moxibustion method, the type of cancer and the course of treatment were not limited; those with acupoints and treatment methods specifically described.

Inclusion criteria for clinical papers on acupuncture-moxibustion treatment of cancer pain: clinical studies or clinical reports of acupuncture-moxibustion for cancer pain; clinical study designs, including randomized controlled trials (RCTs), controlled clinical trials (CCTs) and simple clinical observations; with definite acupoints, treatment methods, observation indicators, outcome indicators and safety evaluation, while follow-up was not required.

1.2.2 Literature exclusion criteria

Duplicate publications, or published in different languages, such as in both Chinese and English; those with significant errors or mistakes.

1.3 Data processing

The data were generally analyzed by the *Chinese Medicine Acupuncture-moxibustion Information Database*. Frequency analysis was made for the points that occurred in over 15% and treatment methods that appeared in more than 5% of the included studies. The predominantly used points and acupuncture-moxibustion treatment methods were then summarized. Clementine 12.0 data analysis software was used for correlation analysis with the Apriori algorithm.

2 Results

2.1 General analysis of the included studies

A total of 239 articles on acupuncture-moxibustion treatment of cancer pain were retrieved, including 196 clinical studies, accounting for 82.0%, 28 literature research papers, making up for 11.7%, and 15 papers in the form of medical record, famous doctor experience and experimental research, accounting for 6.3%.

It can be seen from Figure 1 that the number of the studies on acupuncture-moxibustion treatment of cancer pain has been increasing, and the first significant growth occurred in 2008 while it went virus since 2013. At the same time, the annual growth tendency in the number of clinical papers was basically consistent with that of the total paper, especially after 2013.