

Nursing and safety of silver needle diathermy treating ankylosing spondylitis

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Abstract: This paper aims to discuss the nursing and safety of silver needle diathermy in the treatment for ankylosing spondylitis. We nursed 46 patients with ankylosing spondylitis treated with silver needle diathermy. Specific nursing was focused on physical condition evaluation and mental nursing before treatment, observation during and after treatment, diet nursing, needle eye nursing, functional training and propaganda and education when discharged. The result suggested that all the patients received mental nursing, diet guide, skin care, health education, functional training and follow-up visit from the nurse and all of them could endure silver needle diathermy as discomfort or drug allergy was barely found, so were slight scald and skin infection nearby the needle eye caused by fainting during acupuncture, accidental puncture or overheat. Follow-up visit showed that no patient suffered obvious untoward effect and the pain, joint range of motion and living condition were distinctly improved a week after discharging. In conclusion, during the treatment for ankylosing spondylitis applying silver needle diathermy, the nursing before, during and after the treatment can obviously reduce the complication, accelerate the recovery, which is highly safe.

Keywords: Silver needle, ankylosing spondylitis, nursing.

INTRODUCTION

Ankylosing spondylitis (AS) mainly causes skeleton and axial inflammation and different degree of diseases of organs such as eye, lung, kidney and systematic disease of cardiovascular system. Its distinctive pathology is inflammation of muscle tendon and ligament attachment point and the common symptom is stiffness or pain in low back which can not be eased by rest but alleviated by activities; poker spine, malformation and even severe functional damage may happen in the later period (Shaomin *et al.*, 2010; Zujun *et al.*, 2009; Fang, 2011). This disease is mostly found among young adults, and male is more susceptible. The disease is, to some extent, familial, of which the prevalence rate in our country is 0.26%. With high disability rate, AS badly affects the work, study and living condition of the patients and brings heavy burden to the society and family (Haiping, 2012; Tiejia *et al.*, 2012). For now, western medicine usually applies non-sterides anti-inflammation agent, antirheumatic, glucocorticoid and all kinds of biological agent in the treatment. The side and untoward effect and high price prevent patients from long-term treatment, and the clinical effect is not obvious as the pathogen is not clear and the therapy lacks pertinence. Traditional Chinese medicine has accumulated lots of experience during the long-term therapy of the disease and has various therapies with positive effects, which has good performance in, relieving pain, preventing malformation, improving function and living condition. Gong Fuying

(Fuying, 2011) treated 51 cases of AS applying acupuncture. In the treatment, Dazhui, Zhiyang, Waist Yangguan applied needle-warming moxibustion while Ciliao and Chipien applied acusector treatment, of which the total efficacy was 88.2%. Silver needle was developed from ancient "nine kinds of needles", which take the tender point of primary diseased region of pain or spasm of soft tissue damage as acupuncture point and functions as soft tissue lysis with needles replacing scalpel (Yanhong, 2009; Rilan and Xuefeng, 2009; Changju, 2009). Acupuncture and massage department of our hospital applied silver needle diathermy treating ankylosing spondylitis combined with careful nursing from June 2011 to February 2012, which acquired fine curative effect and highlighted the feature of dialectical nursing of traditional Chinese medicine with its unique advantage.

MATERIALS AND METHODS

Clinical materials

From June 2011 to February 2012, acupuncture and massage department of our hospital admitted 46 cases AS patients who met the New York diagnostic criteria proposed by Engleman. Among them, 35 cases were male and 11 female, ranging in age from 18 to 61 years (mean 30.9 years). The course of disease ranged from 2 to 15 years with an average of 6.8 years. The cardinal symptoms were pain in waist skeleton and hip and morning stiffness, which alleviated after activities but not eased by rest. Daily activities of those who were with

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severe AS or muscular atrophy are seriously restricted, which could not be alleviated by rest and of which the HLA-B27 was 6 points above.

This experiment was carried out with the approval of Ethics Committee in our hospital, and the acknowledgment and permission of patients.

Enroll criteria: patients who matched the modified New York criteria (1984) for AS.

Exclusion criteria:

1. Patients who were aged below 16 years or over 60 years, and pregnant or nursing females.
2. Patients who were combined with severe diseases, such as cardiovascular diseases.
3. Patients who were detected by X-ray with interval removal of spinal facet, bone bridge formation and bone ankylosis.

Method

The patients were selected according to the indication and body positions were chose in terms of the treating location. The operation region was fully exposed and located by anatomy. A total of 16 tender points at soft tissue of waist, waist skeleton and hip was selected. The needle pitch was taken as 2cm and marked. The locations to be treated were conventionally disinfected with iodine and alcohol and sterile drapes were paved, after which the locations were anesthetized by 0.5% lidocaine. Needles of appropriate length were judged by the doctors according to the position and the needles inserted vertically to the skin through skin and subcutaneous muscle, reached periosteum attachment; thus needle inserting was done. Each silver needle was attached with itinerant detector probe and heated. The probe heating was shut down 20 min after the temperature of joint of probe and probe reached 100°. The needles cooling down were extracted and the needle eyes were smeared with 0.3% iodine; the locations were covered with sterile gauze and fixed by rubberized fabric. No discomfort was stated during the operation and the patients were sent back to sickroom after. Patients were advised to rest at in bed and press waist, waist skeleton and hip in case of hemorrhage. The waist was supposed to be kept away from water for 3 days to avoid infection, and the conditions of disease were observed. Besides, specific nursing was performed from the aspects of physical condition evaluation and mental nursing before the treatment, observation during and after the treatment, diet nursing, needle eyes nursing, functional training and propaganda and education when leave hospital.

As for diet nursing, it was implemented according to patients. For example, raw and cold foods were not allowed for patients with deficiency of the kidney and cold governor meridian who were supposed to have warm foods like ginger and alcohol drinks. Besides, foods with

abundant nutrients were quite necessary, such as Huangmao beef broth, mutton soup with dry ginger and chicken soup with angelica sinensis. If a patient had blocked primary and collateral channels caused by cold, he was advised to take foods warming channels and dispelling the wind which included peach soup with leek, mutton soup with angelica sinensis and red dates; while raw and cold melon and fruit, and vegetable were forbidden. In addition, patients who suffered heat resulting from cold-dampness were suggested to have foods that tonified spleen, removed dampness and transmitted heat. For instance, the foods could be gruel made by Huimi (a kind of crop), black-bone chicken stewed with poria cocos, laver, sea crab, onion and lablab.

RESULTS

Treatments of 46 AS patients were accomplished successfully, applying silver needle diathermy, with specific evaluation before the treatment, nurses' cooperation, observation and nursing, health education and guide for proper functional training. During the treatment, few discomfort or drug allergy was found, fainting during acupuncture, accidental puncture or slight scald caused by overheat were barely found and so was skin infection nearby the needle eye. The result is showed in table 1.

Follow-up visit showed that no patient suffered obvious untoward effect, the pain, joint range of motion and living condition was distinctly improved a week after discharging. The result is shown in table 2.

DISCUSSION

For now, there is no radical cure for AS of which the main treatment is to relieve pain and morning stiffness, control or alleviate inflammation, keep good posture, prevent malformation of spine or joint from happening, thus to improve living condition of the patients. Silver needle can treat spine functional degradation caused by soft tissue lesion nearby spine, what's more, it functions well to cure and prevent spine stiffness meanwhile can alleviate pain and joint motion. But, as treatment of AS is a long-term and comprehensive process, a whole set of comprehensive nursing is necessary. This paper discussed the comprehensive nursing from four aspects, before treatment, during treatment, after treatment and after leaving hospital.

Nursing before treatment

(1) Nursing evaluation and health guidance: before silver needle diathermy, the patients received examination of electrocardiogram, hepatorenal function, blood routine examination and cruor etc and those who had disease history of hypertension, coronary disease, diabetes, cerebral apoplexy received treatment for the underlying

Table 1: Untoward effect occurred during the treatment

	Drug allergy	Acupuncture fainting	Accidental puncture	Scald	Skin infection nearby needle eyes
Obvious	0	0	0	0	0
Mild	0	1	0	1	0
Asymptomatic	46	45	46	45	46

Table 2: Follow-up visit on recovery condition a week after discharging

	Pain and morning stiffness	Joint range of motion	Living condition
Improved	46	46	45
Unimproved	0	0	1

disease before the acupuncture. Find out if the patient has drug allergy history and evaluate damaging condition and inflammation of local skin; If the patient is female, more should be evaluated such as if during menstrual period or gestation period etc; know well dining condition of the patients before the treatment in case of acupuncture fainting caused by treatment on an empty stomach. The treatment performed if no situation mentioned previously happened. Skin preparation was performed one day before the operation and the skin kept clean.

(2) Mental nursing: pain in waist, back, bone and joint seriously and inconvenient action affects the living condition, study and work of the patients, hence the negative emotion such as impatience and anxiety. In order to improve the patients' compliance and to make them positively cooperate during the treatment, the primary nurse should answer the questions of the relatives enthusiastically, kindly, patiently and with sincere attitude. Introduce the patients and their relatives the function and principle of silver needle diathermy along with the operation steps, matters needing attention and contingent situations before the treatment. Inform the patients with the approximate cost and hospital stays to improve their confidence on the medical staff and help them correctly comprehend the treatment and arrange time to cooperate. Thus, the scruple is removed, the emotion stabilized and the confidence on the treatment enhanced. Therefore the patients received the treatment with best psychological states (Chunxiang, 2010).

(3) Building comfortable environment: the therapy room should be quiet, safe and comfortable, and indoor temperature should be kept at 24°C to 26°C in spring and summer. In autumn and winter, if it is cold, the indoor temperature should be kept around 26°C with air-conditioner, which stabilizes the temperature and keeps the patients comfortable when warming up. Humidity is about 50% and the light should be gentle. The room is disinfected with air disinfecting machine twice a day and each time for 1 hour and the floor is moped using disinfectant with chlorine once a day. During the operation of silver needle diathermy, we should talk frequently with the patients or play some soft music to

distract the patients and avoid the stimulation of noise or strong light, which may make the patients nervous. If the patient has bad tolerance to acupuncture, then the acupuncture should be separated into several steps.

Observation and nursing of complications during the treatment

(1) Observation and arrangement of lidocaine allergy: once the local anaesthesia is performed with 0.5% lidocaine, the circulating nurse should put an eye on the breathing, pulse and blood pressure variation of patients; observe if there is abnormal sweating, nausea or emesis, then decide if it is anesthetic reaction and dispose in time if found abnormal phenomenon. If somnolence, paresthesia, muscle tremor, convulsions and coma, respiratory depression, hypotension, and signs such as bradycardia and tachycardia occurred, the drug should be suspended immediately and patient should be kept lying on the back; then we observe the vital signs, make sure the respiratory tract unobstructed and meanwhile apply oxygen uptake; if the patients complains headache, nausea and emesis, muscle tremor on the face, blood pressure elevation or dysphoria while the pulse is about to slow down, that means moderate intoxication has appeared and 10 to 20mg diazepam for muscle injection or vein injection besides oxygen uptake should be applied.

(2) Prevention and management of acupuncture fainting: when conducting silver needle diathermy, the nurse should pay close attention to the complexion and expression of the patients to see if there is any sign of mental fatigue, dizzy feelings, pale complexion, hyperhidrosis and nervousness, nausea, cold limbs, falling of blood pressure and fast narrowed pulse. When fainting appeared the acupuncture should be stopped immediately and all the needles be extracted. Make the patient lay on his back and with head lowered, loosen the dress, keep the patient warm and provide warm boiled water.

(3) Observation of accidental puncture and prevention against scald: when inserting needles in waist and back, we should pay attention to the cases of pain in abdomen, choking sensation in chest, anhelation, hypotension etc, in case of accidental puncture on pleura and peritoneum. If

necessary, we should hold patient's hand gently to ease the nervousness. During silver needle diathermy, we should actively ask the patient if there is overheat or any other discomfort and meanwhile require the patient to inform with words if they feel discomfort able so that we can adjust in time and make him comfortable.

Nursing after treatment

(1) Nursing of needle eyes: After silver needle diathermy, we should check if there is scald on the skin nearby the needle eyes and inquire if the patient feels discomfort able; the patient is sent back to sickroom to lie and rest on the bed after 15 min of observation; Make sure the shift is done smoothly and observe the vital signs of the patient for 6h; the local skin is disinfected with entiodine in that very day and covered with sterile gauze. From the next day, the needle eyes are disinfected every day and the local skin kept dry; during three days the needle eyes are kept away from waster and impurity in case of infection; in case of infection, warn the patient not to scratch the needle eyes if spasm or itch happens.

(2) Acupuncture reaction management: patients always suffer acupuncture reaction or mild fever (<38°C) after acupuncture, which die off automatically without treatment.

Propaganda and education when leave hospital

(1) Keep taking exercise. Inform the patients the purpose of AS treatment is to alleviate the pain, morning stiffness and to improve joint motion, is to keep fine posture, healthy physical, social and psychological function but not to reach radical treatment. For now, there is still no medicine which verified to be able to affect the disease course of rachopathy or retard ossification process, therefore keep training is the key for the treatment. Guide the patient to record exercise time and amount every day. Exercise should be taken step by step and it is suitable if the pain won't last for 2 hours after the exercise. Send pamphlet of recovery gymnastics to the patients and introduce new technology and method of AS nursing (Jinhong, 2012; Hong, 2010)

(2) Prevention of respiratory tract infection: infection, fever; intestinal canal: stomachache, diarrhea; urinary tract: frequent micturition, urgent urination, odynuria and other febrile diseases. Treat in time when discomfort appears. Avoid living in humid environment. Keep positive and happy. Choose solid mattress, low pillow and apply straight sleeping posture. Change the posture regularly, the patient is not supposed to sit or lie for too long; take exercise regularly and rest regularly, combine exertion with rest. Measure and record the stature regularly. Discharge medication: remind the importance of taking medicine according to treatment course and untoward effect. Regular subsequent visit: pay regular subsequent visit to check and comprehend illness state

variation so as to adjust the medicine and perform another silver needle diathermy if necessary.

Clinical observation shows, silver needle diathermy has four main functions: (1) eliminate inflammation; (2) increase local blood supply; (3) ease muscle spasm; (4) warm and open up meridians, dissipate cold and relieve pain. From the result of 46 cases AS patients we can see the nursing function of silver needle diathermy in AS treatment is obvious and there is no severe untoward effect. In case of adverse event, effective foreseeable nursing management is taken to assure the smooth treatment. After the treatment, pay close attention to the observation of disease state and prepare for the nursing of prevention against scald, bleeding and infection etc. Enhanced recovery guide is an important guarantee for the successful treatment. Those 46 cases of AS had less adverse effect of inducing factor and cultured good living habit after careful nursing, Finally, they could suffer from less complication, pain and morning stiffness, and have ideal recovery of joint functions, with greatly reduced invalidism and improved living level.

CONCLUSION

AS treatment is a comprehensive and long-term process. The comprehensive treatment involving physical disease, mental disease and social functions could only work well with the cooperation of medical staff, the patient and relatives of the patient. The nursing of silver needle diathermy treating AS covers periods of before, during and after the treatment, and has fine performance when treating disease that needs comprehensive and long-term nursing. Thus, it is worthy of clinical popularization and application.

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