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Clinical Study on the Effect of Acupuncture Combined with Modern Medical Treatment for Tubercular Exudative Pleurisy(TEP)

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Abstract We established a new acupuncture method for TEP and investigated the clinical effect of the acupuncture combined with modern medicine. Control group was employed with chemical therapy for TEP that was introduced widely in the world: Isoniazid (H) 500mg, Rifampicin(R) 450mg, Pyrazinamide 1 500mg per day and in the case of exceedingly effusion over fourth intercostal, it was removed by pleuracentesis and in the study group, acupuncture therapy was combined with the treatment in the control group at the same time. Selected acupoints were local point that is a point corresponding to below top of upper border of fluid in the posterior axillary line, Um Rung Chon (sp10) on the sick side and Kuk Mun (pc4) on the left. When inserted needle to parietal pleura deep and retained needle for 15mins the effect was superior to the other groups and average eliminating duration of the main subjective or objective symptom, X-ray signs and average therapeutic duration reduced significantly compared with control group.

Key words pleurisy, tuberculosis, exudative pleurisy

Introduction

The great leader Comrade **Kim Jong Il** said as follows.

"Next in importance in improving diagnosis and treatment is to combine Korean medicine and modern medical science properly."("ON THE FURTHER IMPROVEMENT OF THE HEALTH SERVICE" P. 13)

Now it is a tendency in the world to make an active application of Koryo medicine to the clinical practice with its particular therapeutic method and good effect.

TEP is a disease that is formed exudative effusion in the pleural cavity because the permeability of pleural capillary increases by tubercle bacillus or other causes, and imbalance between secretion and absorption [1, 3].

Now TEP is mainly treated by chemical therapy on pulmonary tuberculosis (DOTS)[6, 8, 9].

In addition, pleurocentesis is applied to remove the effusion with the antiphthisic[4, 7].

In addition TEP is being treated by Koryo Medicine with good results[1].

According to the Koryo Medical theory, TEP is called "Hiung Huop Tong", "Hyon Um" and the pathogenesis is regarded that exogenous pathogenic factors invade lung, availing of weakened defensive energy, disturb the lung functions including purring is eliminating substances, promoting fluid circulation, and changing any substances into other forms and discharging them through urine,

as a result, evil fluid is accumulated in chest and hypochondrium[1, 3, 5, 10].

Acupuncture is one of Korean traditional medicine that has been applied widely in our country for thousands of years for having its simple method and good effect.

Our ancestors employed the stone needle for treating the boil early in the primitive society about B.C 3000 and with the development of metal-casting techniques and metal tools, people began to use metal medical needles for the treatment, and they exported it to China, Japan, and some East-south Asian countries in A.D. 652[2].

In general, acupuncture has 5 functions such as promoting meridians and collaterals, clearing fever, eliminating cold, two-phases controlling[11].

A researcher reported that when he applied acupuncture needle of 0.25mm and 0.4mm in diameter at Hyon Chu pt, retaining 0.25mm needle for 25min and 0.4mm needle for 15 min, increased most remarkably the quantity of urine[2].

Um Rung Chon pt (sp10), which is a Hap pt (converging pt) of spleen meridian is effective to urinary incontinence, nycturia, cholecystitis etc[2].

Kuk Mun pt (pc4) which is a Kuk pt (cleft point) of Pericardium Meridian is used commonly for acute diseases in chest and hemorrhagic diseases including bloody sputum, hematemesis and nasal hemorrhage[2, 5].

Therefore we expected there would be a good therapeutic effect for TEP when we combine chemical drugs with acupuncture at Um Rung Chon (sp10), Kuk Mun pt (pc4) and local point.

1. Research Targets and Methods

1.1. Targets

145 patients with TEP, we selected 85 patients for study groups, 30 patients for control groups and 30 patients for group to establish a new acupuncture method.

Among them, male patients (117 cases, 81.1%) were much more than female (28 cases, 19.9%).

Age rate of study objectives showed 102 patients (71%) were below 29 years old, 39 patients (27.4%) 30～49 years old, 4 patients over 50 years old, therefore most of them were young below 29 years old.

1.2 Methods

Control group was employed with chemical therapy for TEP that was introduced widely in the world: Isoniazid(H) 500mg, Rifampicin(R) 450mg, Pyrazinamide 1 500mg per day and in case of exceedingly effusion over fourth intercostals, it was removed by pleuracentesis.

In the study group, acupuncture therapy was combined with the treatment in the control group at the same time.

Selected acupoints were local point that is a point corresponding to below top of upper border of fluid in the posterior axillary line, Um Rung Chon (sp10) on the sick side and Kuk Mun (pc4) on the left.

2. Results and Discussion

2.1. Study to establish an acupuncture method on TEP

2.1.1. Average duration of fluid-elimination according to the inserting depth at local point

When inserting needle to subcutaneous, muscle and parietal pleura respectively, average duration of fluid-elimination according to the inserting depth at local point is illustrated in table 1.

Table 1. Average duration of fluid-elimination according to the inserting depth at local point

Inserting depth	Cases	Average duration of fluid-elimination/d
Subcutaneous	10	13.4±2.4
Muscle	10	12.6±3.2
Parietal pleura	10	9.8*, △±2.6

* $p<0.05$(compared with subcutaneous group), △ $p<0.05$(compared with muscle group)

Table 1 showed that inserting needle to parietal pleura deep decreased the average duration of fluid elimination significantly compared with other groups. ($p<0.05$)

2.1.2 Average duration of fluid elimination according to the retaining time of needle

On the basis of the retaining time of needle having an effect on needle treating, when treating by needle for 10, 15, 20, 25 and 30min individually, average duration of fluid elimination according to the retaining time of needle is shown in table 2.

Table 2. Average duration of fluid elimination according to the retaining time of needle

Retaining time/min	Cases	Average duration of fluid elimination/d
10	6	11.5±3.2
15	6	9.5±2.5
20	6	10.3±2.3
25	6	10.7±3.7
30	6	11.3±3.3

Table 2 showed that when compared the effects of the needle with different retaining time, the effect of 15min group was superior to the other groups.

2.2.2. Clinical effect on TEP therapy

Average eliminating duration of the main subjective symptom Average eliminating duration of the main subjective symptom has been proposed as shown in table 3.

Table 3. Average eliminating duration of the main subjective symptom

Subjective symptom	Groups	Average eliminating duration/d
Pleuritic chest pain	Control(n=28)	24.1±2.0
	Study(n=80)	16.3*±3.2
Dyspnea	Control(n=27)	20.1±2.3
	Study(n=79)	12.4*±2.6
Fever	Control(n=25)	18.7±2.6
	Study(n=78)	13.9±2.3

* $p<0.05$

Table 3 showed that in study groups average eliminating duration of pleuritic chest pain, dyspnea and fever decreased significantly in comparison to control groups.($p<0.05$)

Average eliminating duration of the main objective symptom Average eliminating duration of the main objective symptom is shown in table 4.

Table 4. Average eliminating duration of the main objective symptom

Objective symptom	Groups	Average eliminating duration/d
Weaken or absence of vocal fremitus	Control(n=30)	22.4±2.4
	Study(n=85)	18.1±2.9
Half dullness or dullness	Control(n=30)	26.1±2.8
	Study (n=85)	22.7±3.1
Weaken or absence of breathing sound	Control(n=30)	22.3±2.1
	Study (n=85)	17.6±3.2

Table 4 showed that the average eliminating duration of the main objective sign was reduced compared with control groups.

Change of X-ray signs after therapy Change of X-ray signs between control and study after treatment is shown in Fig.

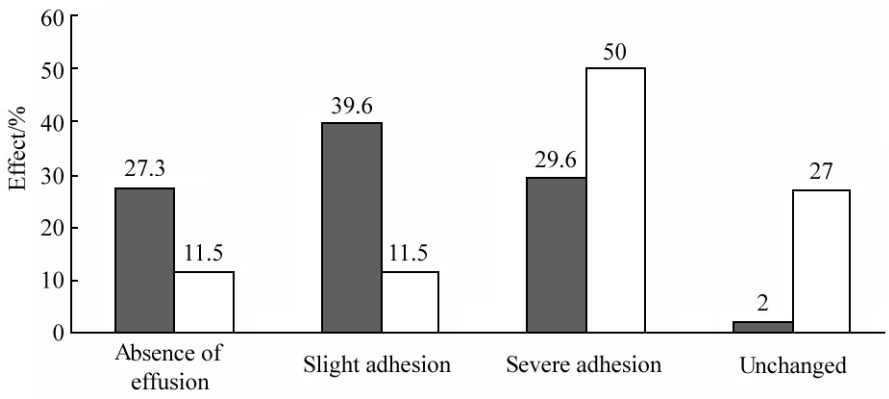

Fig. Comparison of X-ray signs between two groups

■ study, □ control

Fig. showed that absence of effusion and slight adhesion in study group were much more than control group and in control group severe adhesion and unchanged cases were much more than study group.

Average therapeutic period of TEP Average therapeutic period of TEP is illustrated in table 5.

Table 5. Average therapeutic period of TEP

Group	Cases	Average therapeutic period/d
Control	30	32.3±2.4
Study	85	24.6*±2.2

* $p<0.05$

Table 5 showed that in study group average therapeutic period was reduced significantly compared with control group ($p<0.05$).

Conclusion

We established a new acupuncture method for TEP. The effect of the needle on TEP was superior when inserted to parietal pleura deep and retained for 15min.

Combination treatment of acupuncture and chemical therapy for TEP reduced the average therapeutic duration significantly compared with only chemical medication.

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