THERAPY OF FEMALE TUBAL INFERTILITY UNDER DEFOCUSED CO₂ AND He-Ne LASER ACUPOINT IRRADIATION

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In this paper, 50 patients suffering from female tubal infertility had received the therapy of CO₂ and He-Ne laser acupoint irradiation. The acupoints of 'Uterus' and 'Baliao' were selected for laser irradiation. A course of therapy consisted of 25 irradiations. After finishing 1-2 courses of treatment, 26 women conceived within 12 months. It is our belief that the laser acupoint irradiation's promotion of blood circulation and dispersion of stagnant fluids might be an important factor in relieving sterility in these cases.

KEY WORDS Laser irradiation Tubal infertility Acupoint Defocus CO₂ He-Ne

Introduction

One of the major causes of female infertility is tubal transport failure. Chronic salpingitis is the main factor resulting in tubal obstruction. In this paper, we reported the therapy of CO₂ and He-Ne laser irradiations on 50 infertile patients.

Patients and Methods

This clinical study covered the period between June 1987 to December 1988. Before the irradiation, each patient had received a physical examination with special attention to bimanual pelvic examination. They were observed by measurement of basal body temperature (BBT). Tests for determining presence or absence of ovulation consisted of plasma levels of estradiol and progesterone by RIA in luteal phase of the menstrual cycle. Endometrial biopsies were obtained in 21-23 days of the cycle. Uterotubal insufflation or hysterosalpingogram (HSG) should be done to observe tubal occluded or patency. Evaluations of semen of the subjects' husbands should also be done to determine the percentage of normal sperm, live sperm and sperm counts. Laparoscopy was performed if it was necessary to show whether the tubes were patent or blocked and also enable the physician to identify endometriosis as well as ovarian tumours.

Radiation of defocused CO₂ laser was carried out on 'Baliao' acupoints. They are located at foramina sacralis dorsalis I to IV (Figures 1 and 2), there are dorsal branches of the relative sacral nerves and the accompanying vessels. Irradiative distance was 50-100 cm. The time of irradiation was 10 min. 'Uterus' acupoints were irradiated by He-Ne laser.^{1, 2} The location of this acupoint is 3 cm lateral to CV Zhongji, this lateral margin of M. rectus abdominis, penetrates the aponeurosis of M. Obliquus externus abdominis, M. Obliquus internus abdominis, M. Transversus abdominis, the extraperitoneal fat and reaches the peritoneum. There are branches of the vessel epigastrica superficialis and nerve iliohypogastricus in the superficial layer and the epigastric vessels in the deeper layer.³ The distance of irradiation was 20 cm and each side of 'Uterus' acupoint was irradiated 7 min. Irradiation therapy was done once a day, 25 times were a therapeutic course. Patients were followed up within one year after the therapy and re-examined to find out success or failure in conception.

Results

There were 15 patients with primary infertility and 35 with secondary infertility. They were in reproductive age between 23-35 years old. Their durations of infertility were from 2 to 12 years. Pregnancies occurred in 26 women. The successful rate was 52 per cent. Eight patients conceived in 3 months after the therapy, 12 more in 6 months and six more in the following 6 months.

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Figure 1. Location of acupoint 'Uterus'. The distance between umbilicus and symphysis pubica is separated into five portions. The point between upper four portions and lower one portion is called Zhongji. Acupoint Uterus is 3 cm lateral to Zhongji

Figure 2. Location of acupoint 'Baliao'. Baliao consists of eight acupoints which are opposite to the eight foramina sacralia dorsalis. Opposite to the 1st foramen, the first pair is called Shangliao, the 2nd, 3rd and 4th pairs are called Ciliao, Zhongliao and Xialiao respectively

Twenty-four women failed in pregnancy. Laparoscopies were performed in 10 of them, and five patients were found to have hydrosalpinx or severe adhesions of salpingo-oophoritis. Endometriosis were confirmed in four patients. Ovarian cancer in early stage was found in one of them (Table 1).

Case Report

Case 1. 32 years old, married 9 years, Gravida 0, Tubal block was shown by HSG. After 25 times of laser therapy, she conceived and delivered a full-term baby.

Case 2. 25 years old, married 4 years, Gravida 1, Para 0+1. Salpingectomy of right side tube was performed for tubal pregnancy and adhesion of the opposite tube was observed 3 years ago. Pregnancy occurred following 17 times of laser irradiation. A girl was born in full-term 9 months after.

Table 1. The results of 50 tubal infertility patients following laser acupoint irradiation

Diagnosis	No. of cases	Pregnancy	Failure
Primary infertility			
Tubal occluded or salpingitis	12	10	2
Endometriosis	2	1	1
Ovarian cancer	1	-	1
Secondary infertility			
Tubal occluded or salpingitis	22	14	8
Salpingo-oophoritis	5	-	5
Intrauterine adhesion	5	1	4
Endometriosis	3	-	3
Total	50	26	24

Discussion

The laser system used was a CO₂ laser and was applied at an output power density of 25 mW/cm² and a spot size of 0.25 cm for the times given below.

This is a preliminary study on 50 infertile women who received the laser acupoint therapy. Of these cases, 26 women eventually became pregnant. The time of pregnancies occurred in relation to laser therapy gives some idea as to the benefit of CO₂ and He-Ne laser irradiation. The results are extremely suggestive that there is real therapeutic value in laser therapy, especially since in many instances pregnancies followed upon improvement in the tubal status as demonstrated by repeated laser acupoint irradiation. It is our belief that laser acupoint irradiation might have the action to dissolve or remove mild intratubal agglutinations and adhesions at the fimbriate ends. According to the theory of channels and collateral channels, laser irradiation on acupoints promotes the blood circulation and disperse stagnancy. Acupoints 'Uterus' and 'Baliao' are responsible for female reproductive organs, especially for uterus, tubes and ovaries. However, the therapeutic effect may be the laser's action upon the mild inflammation and block of tube relieving sterility in some cases.

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