Preliminary clinical experience with a thermal balloon endometrial ablation method for menorrhagia

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The TB endometrial therapeutic apparatus for menorrhagia is used to coagulate, necrosis, exfoliate, and fibrosis endometrial tissue proteins with heat energy.

Treatment of menorrhagia TB endometrial therapeutic apparatus stripping: using heat to make endometrial tissue protein coagulation, necrosis, peeling, fibrosis. TB endometrial therapeutic apparatus is composed of two parts, one is a hot bulb catheter, the other is a controller to monitor and control the temperature, pressure, and treatment time in the bulb. The first function is the pneumatic system, which can detect the air pressure of the heating system and provide positive and negative pressure for the instrument; the second is the heating system, which can heat the treatment fluid as a heat source and measure the instantaneous temperature in the ball and is limited to 173 ℃; the third is the control system, which can control the heating temperature and treatment time of the instrument within 128 seconds and the pressure value so that the treatment fluid can make 14 cycles between the catheter and the balloon. Before treatment, acute infection and organic lesions were excluded by routine examination. After that, the guide rod ball was inserted into the uterine cavity to touch the uterine bottom, and the scale of the guide rod was checked to see whether it was consistent with the depth of the uterine cavity. Then, a 5% glucose solution was slowly injected into the bulb through the interface, so that the pressure in the uterine cavity gradually increased to 170-190 mm Hg and kept stable. The heating system was started, and the temperature of the solution in the ball increased to 87 ℃. After treatment, when the temperature in the ball drops below 60℃, take out the liquid in the ball and take out the guide rod. During the treatment, the controller continuously monitors the temperature, pressure, and time in the ball. The patients were discharged from the hospital 2 days after the operation. The patients were followed up 1,2,3,6,12,18 months after the treatment.

36 cases of menorrhagia (30 cases failed to be treated with drugs and / or curettage), including 12 cases of dysfunctional uterine bleeding, 12 cases of hysteromyoma, 6 cases of adenomyosis, 3 cases of multiple endometrial polyps, 3 cases of thrombocytopenia; the average age is 42 years old, and there is no need for reproduction. All patients were excluded from uterine inflammation, pregnancy or contraceptive ring, endometrial cancer, and precancerous lesions.

The therapeutic standard no menstruation: no menstruation after treatment; drip menstruation: a small amount of bleeding every month, lasting for 2-3 days, without menstrual pad; a small amount of menstruation: menstrual amount < 20 ml, lasting for 2-7 days; normal menstruation: menstrual amount 20-60 ml, lasting for 2-7 days; menorrhagia: menstrual amount, the menstrual period before treatment.

Results and discussion

During the operation, the pressure from the swelling ball to the uterine cavity reached the standard, the liquid in the preheating ball reached 173 ℃, and the actual treatment time was 128 seconds. During the follow-up period of 2-18 months, 10 of 36 cases had no menstruation, accounting for 28%, all of them were dysfunctional uterine bleeding patients; 18 cases had drip menstruation, accounting for 50%; 6 cases had little menstruation, accounting for 16%; 1 case had normal menstruation after myoma operation; 1 case had no significant change in menstruation after Myo adenosis operation. 97% of the patients had a significant reduction in menstrual volume after the treatment.

The average operation time is 128 seconds, and the patients can return to normal life within 24 hours.

Hot ball endometrial stripping is to expand and heat the latex balloon placed in the uterine cavity through preset electronic component data, and to uniformly act on the surface of the uterine cavity with thermal effect, to coagulate, peel and remove the endometrium to the basement layer, to achieve the purpose of amenorrhea or reduce menstruation. Because the setting data of this therapy makes the thickness of endometrium coagulate about 4-5mm, so the best operation time is within 2-7 days after menstruation is clean, and it can also be used to make the endometrium shrink and thin or to remove the surface layer completely by curettage

Behind the membrane. It was found in clinical experiments that when the surface temperature of the uterine cavity reached 173℃, there was obvious coagulation effect in the endometrium, the superficial myometrium, including the angle of the uterus, but there was no change in the temperature of the serous layer of the uterus, and no pre-set pathological changes were found in the myometrial section. This method has the advantages of high safety, few complications, no anesthesia, no operation, uterus preservation, short treatment time, quick response, and little pain. We think that it should be the first choice for patients with menorrhagia caused by a non-genitalia malignant tumor, or repeated attacks after drug treatment or with internal diseases that cannot tolerate surgery or unwilling to remove the uterus. According to the results of this group, the treatment effect of hysteromyoma and Myo adenosis is worse than that of the patients without the organic disease, which may be related to the change of the shape of the uterine cavity caused by the pathological changes of the uterine wall, which makes the saccule in the uterine cavity not even close to the surface of the uterine cavity.

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