

ECO[®]



Minimally Invasive Treatment for Uterine Fibroid & Adenomyosis

Shorter operation time · Quicker recovery

Incidence rate of benign uterine diseases

Fibroids

Fibroids are the most common benign tumors of the female genital tract, with a symptomatic occurrence rate of 20%-40% in reproductive-age women.

Clinical symptoms: Abnormal uterine bleeding, secondary anemia, pelvic compression symptoms and pain, reproductive dysfunction, etc.

Adenomyosis

Most often diagnosed in middle-aged women and women who have had children. With the delayed childbearing age, the incidence rate among infertile women has increased in recent years.

Clinical symptoms: Heavy or prolonged menstrual bleeding, severe cramping or sharp, knife like pelvic pain during menstruation (dysmenorrhea), chronic pelvic pain, etc.

Principle of microwave ablation

With the guidance of imaging system, microwave ablation antenna is directly punctured into the tumor. Polar molecules inside the tissue move rapidly within microwave electromagnetic field, generating heat through mutual friction. When the intra-tumor temperature reaches 60°C, the cancer cell proteins will be denatured and result in irreversible necrosis. This procedure will have very small effect on other tissues. It will help improve patient's immunity and inhibit the proliferation of cancer cells.

Indications - Fibroids

- Clinically diagnosed fibroids, FIG grade 0-6
- Accompanied by abdominal pain, menorrhagia, secondary anemia, compression and other symptoms
- Patient has no perimenopausal signs

Indications - Adenomyosis

- Clinically diagnosed adenomyosis (The width of uterine junction >13 mm);
- Accompanied by progressive dysmenorrhea or menorrhagia, anemia or compression symptoms;
- Patients who have not given birth or have given birth but have strong desire to keep the uterus. Has no perimenopausal signs, and there is a safe puncture path through the abdominal wall.
- Lesion thickness > 30mm: dysmenorrhea symptom score > 4 or hemoglobin value \leq 10g, dysmenorrhea or anemia symptoms continued for more than 1 year and continued to worsen; patient refuses hysterectomy or other invasive treatment, and voluntarily chooses percutaneous microwave ablation.

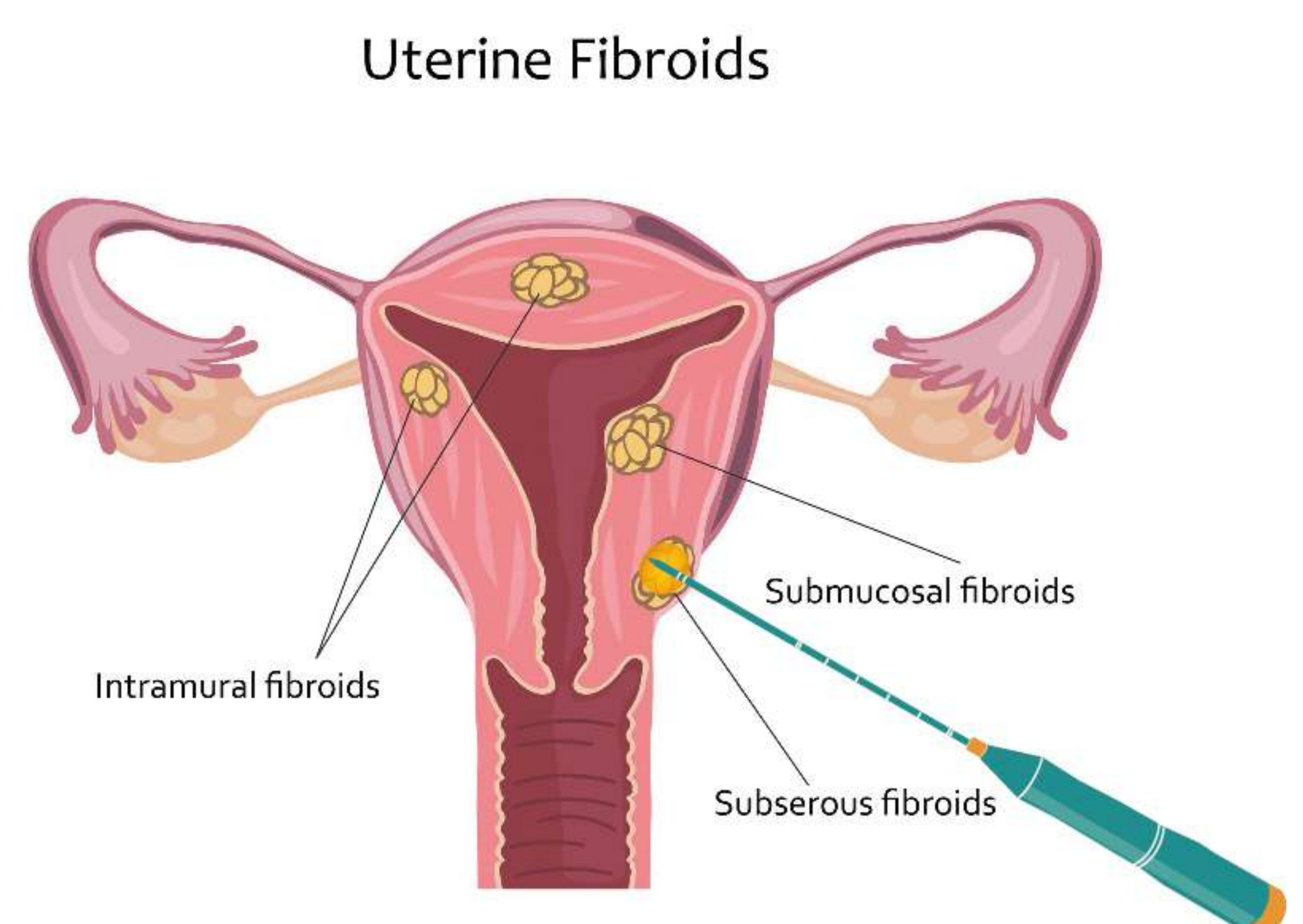


Comparison of different treatment methods

Laparoscopic or hysteroscopic removal of lesions	Suitable for fibroids, but not so effective on adenomyosis, especially diffuse adenomyosis. Pregnancy rate after operation is low.
Hysterectomy	Radical treatment method, but side effects are serious, affects ovarian function, not suitable for young women who have not had children.
Chemical ablation	Suitable for lesions smaller than 3cm.
Medication	Can temporarily improve symptoms but can't make the fibroids go away; (Women with pressure symptoms caused by large fibroids won't benefit from any medicines currently available.) Side effects are serious, many adverse reactions, relapse after stopping medication.
HIFU	Application scope is limited, focus area is small, needs to be repeated for many times; it's more effective for smaller lesions with thinner abdominal wall and less blood supply operation is time-consuming.
Uterine artery embolization	Can lead to postprocedural pain, postembolization syndrome (complete amenorrhea, subclinical damage of the ovarian function), and risk of infection; Contraindicated in woman desiring future pregnancies; Radiation exposure; High risk of re-intervention rate.

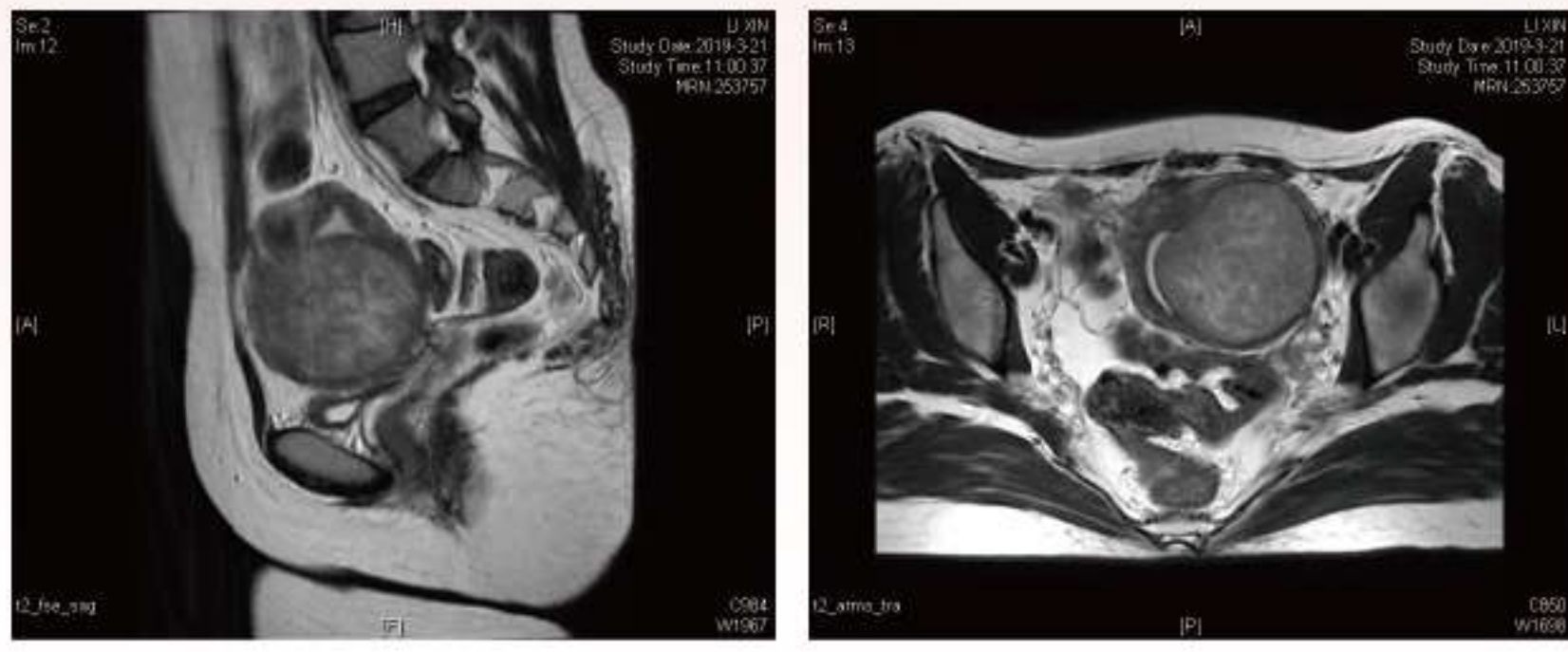
Advantages of microwave ablation in the treatment of fibroids and adenomyosis

- Preserve uterus, no damage to pelvic structure. Lesions will be inactivated and significantly reduced in size after ablation, which can improve or eliminate the clinical symptoms (such as dysmenorrhea, large menstrual volume, anemia, etc.).
- Has no effect on ovarian function, menstrual cycle will be normal after ablation.
- No surgery required, can be treated through percutaneous or transvaginal approach.
- Simple operation, short ablation time, less trauma, no scar, safe and effective.

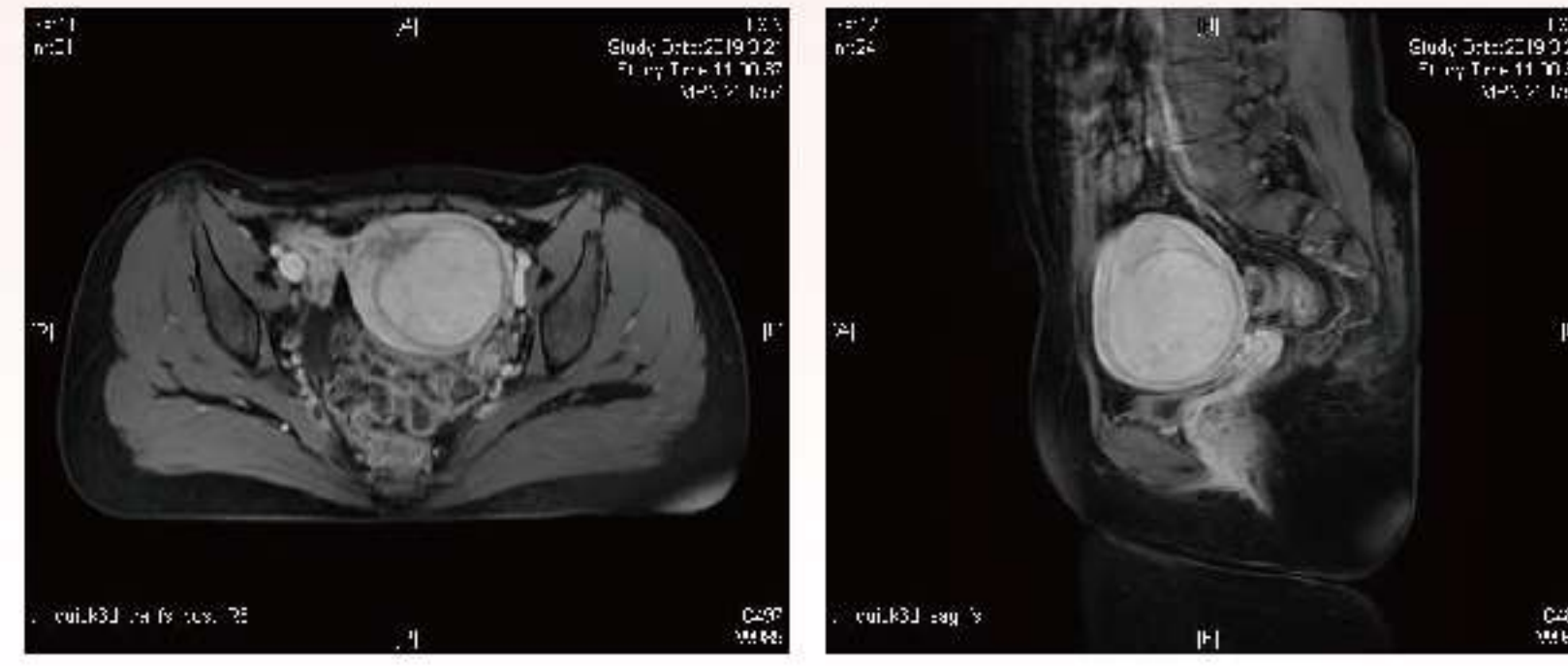


Case 1

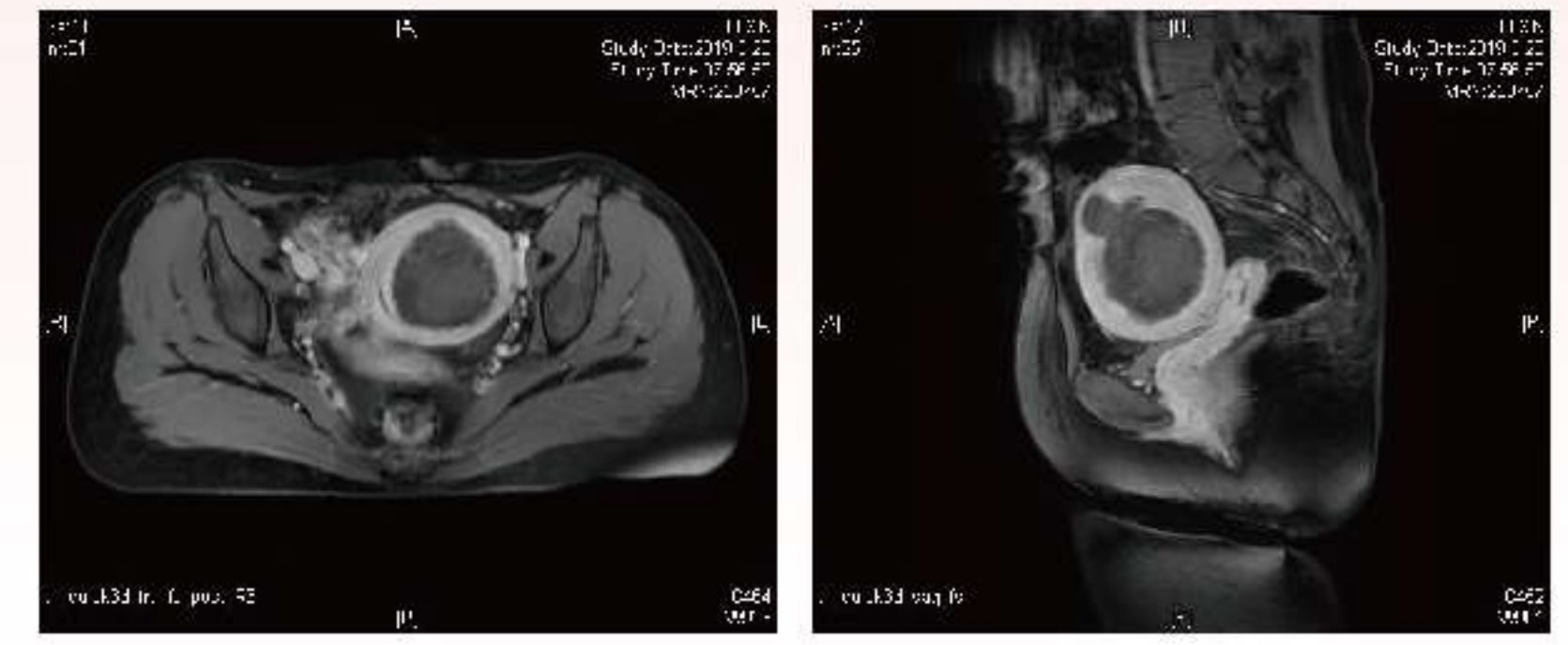
31-year-old patient, was diagnosed with myoma 2 years ago, menstruation lasted for 4 months. Rich blood supply myoma with the size of 61mm x 63mm x 56mm on the left uterus wall and a small myoma with the size of 22mm x 20mm x 16mm in the anterior wall near the uterus bottom side.



Pre-ablation contrast-enhanced scanning



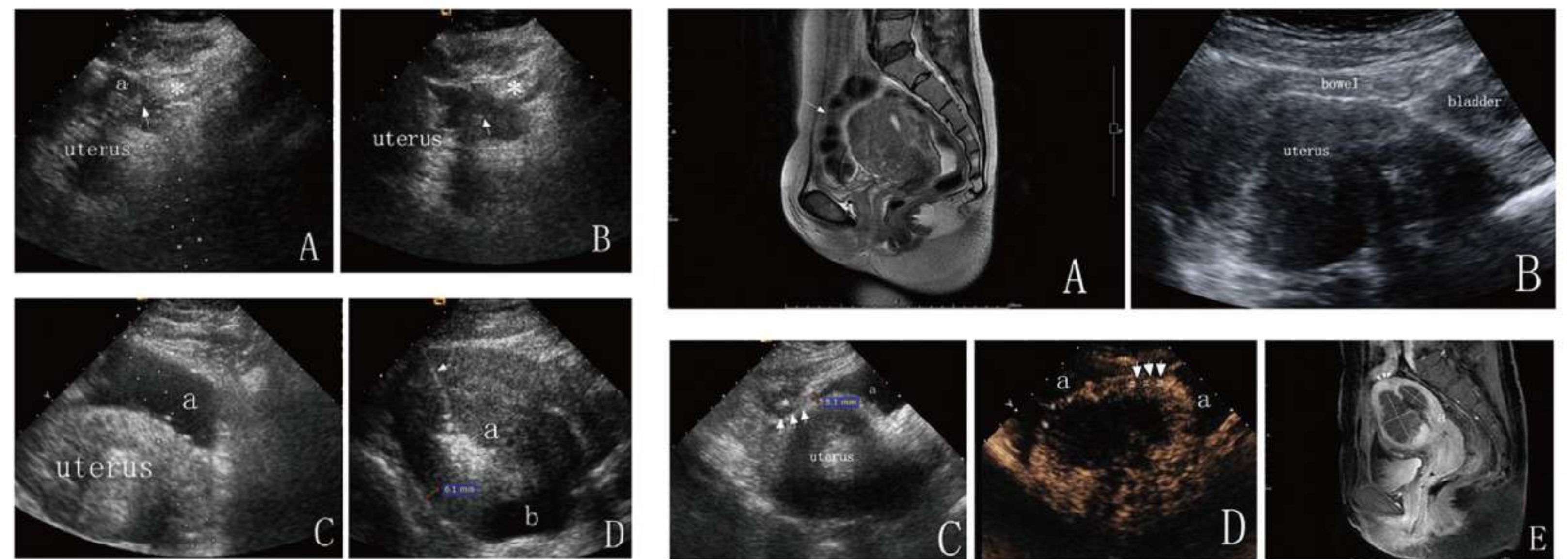
Pre-ablation contrast-enhanced scanning



Post-ablation contrast-enhanced scanning (Three months after operation, lesion size was reduced by 60%)

Case 2

43-year-old patient with diffuse adenomyosis, percutaneous microwave ablation was performed.



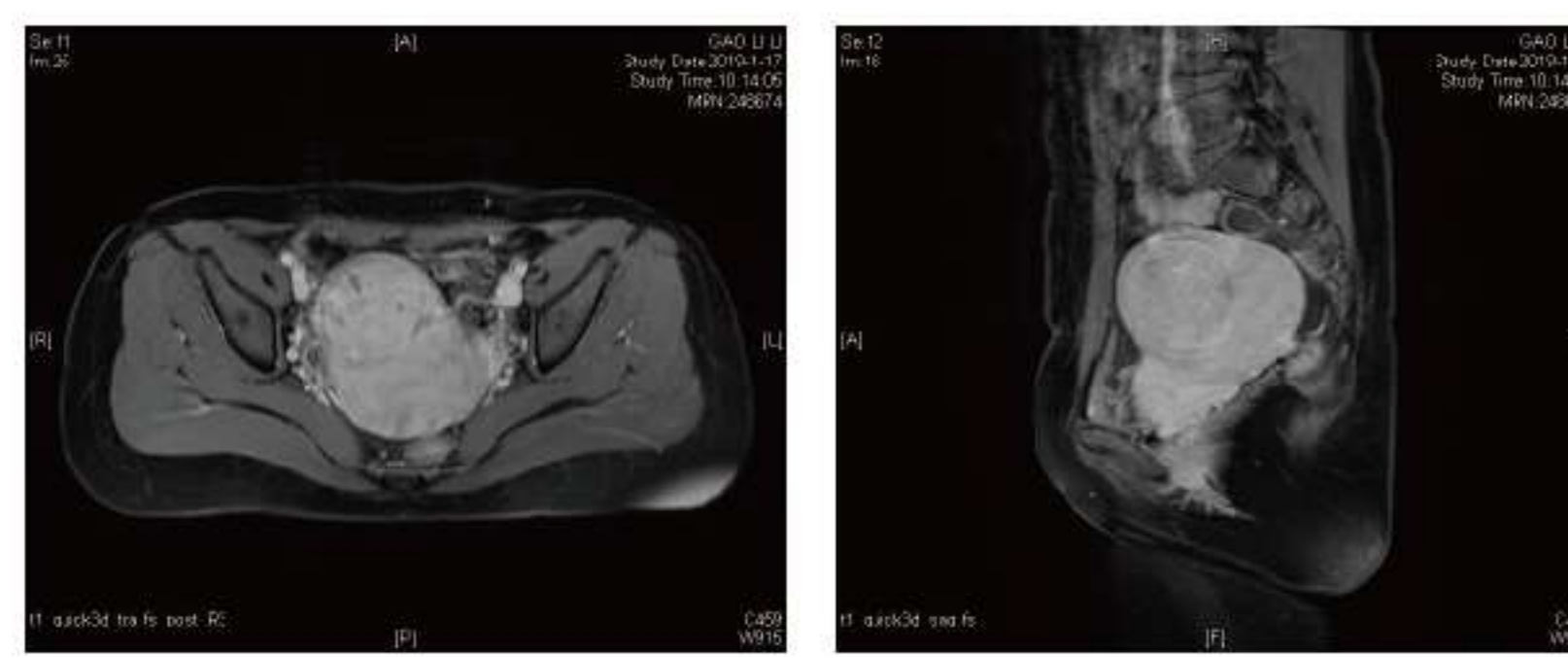
Artificial ascites

Case 3

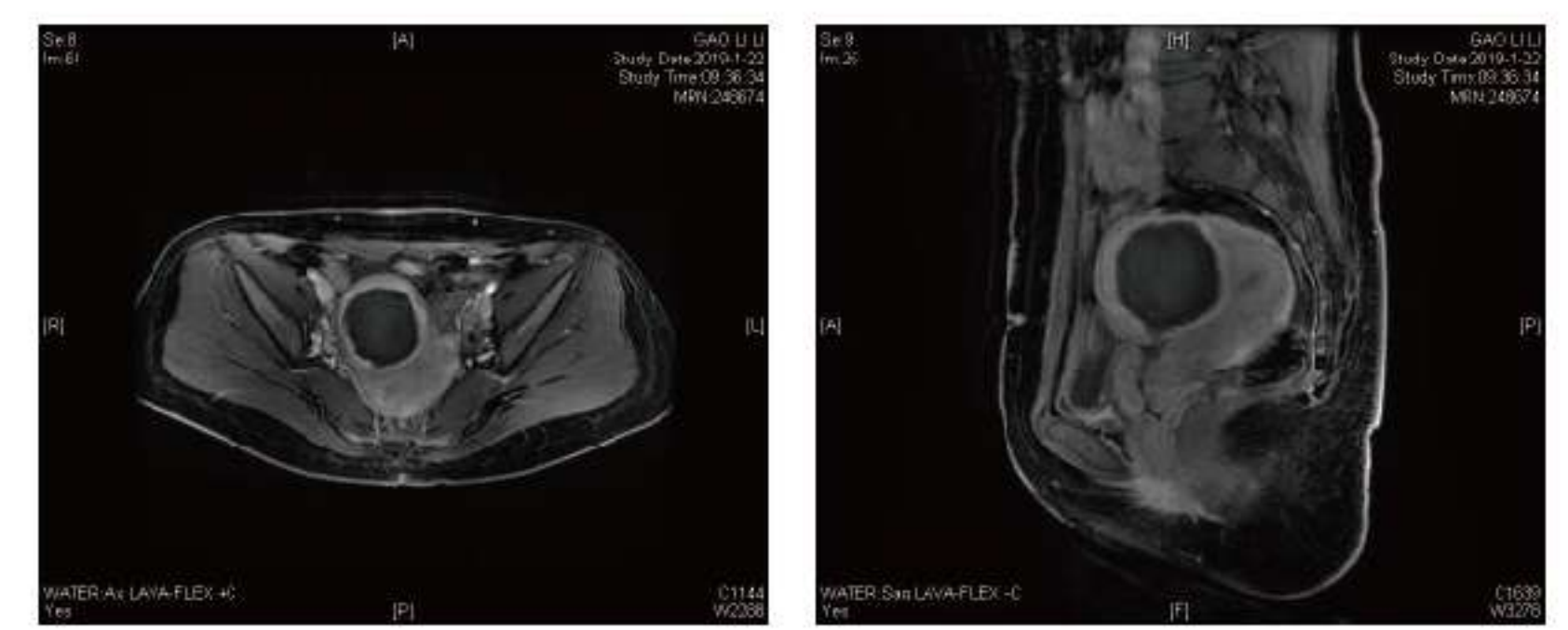
43-year-old patient, uterine fibroid was found during physical examination, lesion size is increasing gradually, located in anterior wall near isthmus, size 7.6 x 7.4 x 6.6cm, rich in cells and blood supply. Patient had a history of cesarean section, it was difficult to push away the anterior wall intestine, so transvaginal ablation was performed.



Pre-ablation contrast-enhanced scanning



Pre-ablation contrast-enhanced scanning



Post-ablation contrast-enhanced scanning

Case 4

Patient symptom: Menorrhagia; lesion size: 4.75x4.15cm. Microwave ablation was performed with 16G/20cm ceramic antenna.

60W continuous mode for 6 minutes then adjusted output power to 80W, pulse mode for 7 minutes.



Ablation zone immediately after the procedure is 4.58x4.45cm.



Day-1 post contrast ultrasound avascularity zone: 4.78x4.21cm

ECO Microwave Generator



- CE, FDA approved 2.45GHz water cooling Microwave System;
- Touch screen interface, easy to operate;
- Multiple safety measures, ensures effectiveness & safety;
- Special Designed Thyroid Ablation Mode;
- Pulse Mode to minimize operational pain.

ECO Microwave Antenna



Ceramic Antenna



MRI Antenna

Feature

Available in 8G, 14G, 15G, 16G, 17G diameters

Available in 10cm, 15cm, 20cm, 25cm lengths

Detachable cable

Unique MRI compatible antenna available

Patented cooling system with thermocouple

High strength shaft material and advanced anti-adhesion technology

Benefit

Variety of diameters available for different organs and lesion sizes

Variety of lengths available for open, percutaneous, and laparoscopic procedures

Makes antenna placement more convenient

To achieve MRI guided ablation procedure

Real-time coolant temperature monitoring to minimize the risk to non-targeted tissue burns

Lower tumor core temperature, less charring

About US

Established in 2000, ECO is a medical device manufacturer in China. ECO is actively involved in microwave, high-frequency and physical therapy fields. With its vision "To Be No.1 in China and First-Class in the world", and its mission to help employees realize their self-worth and contribute more to human health, ECO is trying every effort to deliver advanced technology and provide product solutions to medical institutions at home and abroad.



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