

## Applied Research on Vascular Interventional Therapy in Obstetrics and Gynecology

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**Abstract:** Vascular interventional therapy for obstetrics and gynecology is the specific application of interventional radiology in obstetrics and gynaecology. It is based on the principle of medical imaging equipment, combined with the principles of clinical therapeutics, a range of treatment techniques, and the use of catheters and other instruments for obstetrics and gynecology diseases. Because interventional radiology has the advantages of internal medicine and surgery in the field of disease diagnosis and treatment, it has been listed as the third major therapeutic discipline in the world with internal medicine and surgical treatment. At present, vascular intervention has been applied to the treatment of various gynecological diseases, and has achieved certain effects and gained wide attention.

### 1. Introduction

The application of vascular interventional therapy in the treatment of gynecological diseases begins with the treatment of gynecological malignancies, mainly in the prevention and treatment of gynecological malignant tumors and palliative treatment of gynecological tumors. In 1976, American Miller and other scholars first applied selective arterial embolization technology to control the massive hemorrhage caused by gynecological pelvic malignancies and succeeded, thus finally solving the problem of treating gynecological middle and late stage cervical cancer bleeding that has been plagued for many years; In the 1980s, arterial infusion chemotherapy and embolization technology has been widely used in the treatment of cervical cancer, endometrial cancer, ovarian cancer, fallopian tube cancer and recurrent cancer. The clinical application of preoperative and postoperative studies has been further deepened. Although the Japanese scholars' clinical research in this area started late compared with the advanced countries such as the United States at that time, they soon came to the fore, especially in the treatment of gynecological cancer, and so far, it has been The rest of the world is behind yourself. In 1988, Japan's Miura Ken and other scholars proposed a small amount of repeated arterial perfusion therapy. In 1990, Japanese scholars such as Kitao et al. proposed a new theory of arterial infusion therapy, which can be applied to endometrial cancer. Arterial chemotherapy. In 1979, Heaston and other scholars applied the technique of vascular interventional therapy to the treatment of postpartum hemorrhage for the first time, and unexpectedly achieved great success, thus solving the thorny worldwide problem that has long plagued the obstetrics community in the treatment of postpartum hemorrhage. It has brought a new dawn to the majority of pregnant women, marking the official start of interventional therapy technology for the benign diseases of obstetrics and gynecology, which greatly enriched the application of interventional therapy technology in the field of obstetrics and gynecology, and gave women A unique new concept in obstetric interventional therapy. In 1991, scholar Ravina applied arterial embolization to the most common benign tumor of gynecology: the treatment of uterine fibroids. Four years later, in 1995, the world's first and the first reported 16 cases of symptomatic uterine fibroids. effect. In 1986, the Chinese Journal of Obstetrics and Gynecology published a pelvic angiography for the diagnosis of uterine malignant trophoblastic tumors. In 1994, an article published in a study on selective arterial embolization for the treatment of trophoblastic tumors with intra-abdominal hemorrhage was published. In 1997, Yu Jian applied the technique of vascular

interventional treatment of tubal pregnancy to the clinic. In 1999, Chen Chunlin and Liu Ping applied the treatment technique of vascular interventional adenomyosis to the clinic, and achieved good therapeutic results. The wide recognition of the industry and patients has further expanded the richness of the clinical application of vascular interventional therapy in obstetrics and gynecology, and has achieved a new upgrade in the level of minimally invasive interventional technology in obstetrics and gynecology.

## **2. Clinical application of vascular interventional therapy in gynecological diseases**

**Contrast of gynecologic malignant tumors:** vascular interventional treatment of gynecological malignant tumors. Usually, most of the uterine artery and internal iliac artery are selected for angiography. Through the angiography of related arteries, the size and shape of tumors and/or metastases, the extent of lesion invasion and blood supply can be clearly understood, which provides a scientific basis for further distribution of chemotherapy drugs and arterial embolization. It has a wide range of clinical application value in cervical cancer and trophoblastic tumors: for patients with cervical cancer, the most common malignant tumor in gynecology, angiography can clearly understand the size and shape of the tumor and the extent of its invasion. Clear diagnosis of clinical stage; for gynecological trophoblastic tumor patients, through angiography, can clearly understand the lesion site and its degree of erosion, not only as an important basis for clinical diagnosis and differential diagnosis, but also to judge the efficacy of chemotherapy drugs and Predicting the outcome of a lesion has extremely important value.

**Local arterial infusion chemotherapy for gynecological malignant tumors:** When the direct blood supply artery of gynecological malignant tumors is perfused with chemotherapy, the chemotherapeutic drugs can directly act on the lesions, which can not only greatly increase the concentration of chemotherapeutic drugs inside and around the malignant tumors, thereby improving the curative effect. It can also greatly reduce the amount of chemotherapy drugs, thereby reducing the systemic adverse reactions caused by chemotherapy drugs, and become one of the important methods for clinical treatment of gynecological malignancies. At present, local arterial infusion chemotherapy has been widely used and widely used in the treatment of cervical cancer, endometrial cancer, trophoblastic tumor, ovarian cancer, pelvic recurrence tumor and liver, kidney and other metastatic tumors.

**Arterial infusion chemotherapy for cervical cancer:** Indications for arterial infusion chemotherapy for cervical cancer are mainly used for elderly patients who are unable to tolerate surgery or who have lost the opportunity for direct surgery and who are clinically cytologically suggestive of poorly differentiated patients. The main purpose of intra-arterial infusion chemotherapy is to: 1 further reduce the lesion and reverse its clinical stage, thus creating a valuable opportunity for the next surgical treatment; 2 to create favorable conditions for the subsequent surgical treatment to minimize intraoperative bleeding; Patients with advanced surgery without sedation are treated with palliative care to improve their quality of life and survival. Mizuno and other scholars reported that uterine artery or internal iliac artery infusion of cisplatin neoadjuvant chemotherapy for 53 patients with different clinical stages of cervical cancer, 42 cases of chemotherapy after cervical cancer radical surgery, I, II, For patients with stage III and IV, the 5-year survival rates were 100%, 71.5%, 52.2%, and 0, respectively.

1 Arterial embolism for acute hemorrhage of gynecologic malignant tumors and arterial embolization of trophoblastic tumor lesions and metastatic hemorrhage can not only retain the patient's uterus, but also gain time for the next step of intravenous chemotherapy. Peking Union Medical College Hospital performed embolization of 30 patients with trophoblastic tumor recurrence or metastatic rupture and hemorrhage in emergency patients. After surgery, combined with systemic chemotherapy, all patients' bleeding was timely, rapid, effective and comprehensive. Among them, 4 patients were cured and re-pregnancy and full-term delivery. However, the short-term efficacy is very satisfactory for the arterial embolism in patients with advanced cervical cancer hemorrhage, but the long-term efficacy is not ideal. So far, there is no significant report on improving the survival rate of patients.

Clinical application of 3 tube interventional therapy in benign diseases of obstetrics and gynecology

The main cause of major bleeding in obstetrics and gynecology is due to ectopic pregnancy, dysfunctional uterine bleeding, uterine lesions, uterine atony, and postpartum tumor rupture, which seriously threaten the patient's life safety and physical and mental health, especially postpartum hemorrhage. The main cause of maternal death is the highest cause of death in China. The effective therapeutic effect of vascular interventional arterial embolization in postpartum hemorrhage has been highly recognized by the medical profession, especially the medical staff of obstetrics and gynecology. The uterine artery or internal iliac artery embolization can stop bleeding, and its effective rate can reach 80%~90%, timely, rapid, effective, less complications, compared with the average operation time of hysterectomy, the time consumption is significantly reduced. In addition, the patient's uterus can be preserved to the utmost extent, and the advantage is unique and significant in comparing the traditional surgery in the treatment of gynecological bleeding.

Uterine fibroids are the most common benign tumors in female genitalia. Clinical treatments include observation waiting, drug treatment, surgical treatment, and hysteroscopic endometrial ablation. Vascular intervention has no risk of conventional surgery, and the interventional treatment for various types of refractory uterine fibroids is satisfactory. It is especially suitable for young patients who have fertility requirements or are unwilling to undergo conventional surgery. Over the years, a large number of clinical practice studies have proved that vascular interventional techniques in the treatment of uterine fibroids, patients with less trauma, effective curative effect, rapid recovery, less adverse reactions, easy for patients to accept, and can retain the patient's uterus, The concept of humanization, personalization, comfort, and minimally invasiveness advocated by modern medical treatment is fully reflected, and it is an accurate, safe, reliable and efficient treatment.

Up to now, there is no definitive curative drug for treating this disease. Patients who are young or require fertility preservation can perform excavation. However, the risk of recurrence is inevitable. For older age, no fertility requirements, and symptoms. Patients with particularly severe and conventional drug treatments should have a total hysterectomy, but it is accompanied by a loss of fertility and affecting the physical and mental health of the patient. Clinical studies have proved that vascular interventional techniques are effective in the treatment of adenomyosis, but the specific treatment effects, the controversy of medical institutions at all levels is constant, and larger, the next step is to carry out large samples, Refine the need for in-depth research. One of the traditional treatment methods for ectopic pregnancy is to remove the patient's affected side of the fallopian tube, so the trauma is large, and it is difficult to ensure that the patient's reproductive function is not affected. Vascular interventional technique can not only directly kill the embryo when treating ectopic pregnancy, but also greatly reduce the potential risk of removing the uterus due to internal bleeding and shock. In addition, it has no damage to the tubal pregnancy and ensures The smoothness of the fallopian tube makes the patient's natural fertility ability of the affected fallopian tube unaffected.

### 3. Conclusion

The application of vascular interventional therapy in gynecological diseases can simplify many complicated surgical procedures, and make many obstetric and gynecological diseases that cannot be recognized or can not be treated get correct and in-depth understanding, and get effective treatment. Vascular intervention has comprehensively and deeply observed and explained obstetrics and gynecology diseases from a new perspective, and applied a new idea to understand and explain the specific occurrence and development process of obstetrics and gynecology diseases. Vascular intervention is more in line with the traditional medical and gynecological treatment methods, and it is more in line with the medical concept and treatment principles of multi-dimensional, individualized, individualized and minimally invasive. The application time of obstetrics and gynecology interventional therapy technology is still relatively short, its advantages have not been fully reflected, and its shortcomings have not yet been fully recognized. Therefore, in future

research and clinical application, we should promote strengths and avoid weaknesses and comprehensively optimize interventional treatment of obstetrics and gynecology. Technology.

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