


<h2>Interventional Radiology in Treatment of Uterine Fibroids</h2>		<b>Healthcare</b>
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**Abstract**

Uterine fibroids are the most common cause of gynecological intervention in female surgery in general; laparotomy is the most common surgical technique worldwide and in the last decade or so laparoscopy has taken place when the infrastructure in technology and specializes human resources are available. In Albania, the classical surgery like laparotomy is the most common surgical procedure in gynecology intervention for uterine fibroids, however, other techniques available in developed medical systems are available treatment options and perfection of these techniques are promising and cost-effective as well. Uterine fibroid embolization is a non-surgical technique that shrinks fibroids without removing them surgically. The procedure is performed by an interventional radiologist, a medical doctor with certification in radiology and special education and certification in interventional radiology. Patient does not need to be put to sleep, but sedating medications are given in the vein to help relax the patient during one to two hours that procedure takes. A small incision is made in the groin directly over the artery carrying blood to the leg. The interventional radiologist guides a long thin catheter into the blood vessels that supply the uterus while monitoring the process under X-ray. Small plastic particles are pushed through the catheter until they form a blockade to the blood flowing to the uterus. Fibroids have a limited supply of blood vessels, and with the blood flow blocked, the fibroid cells start to die off. The surrounding normal uterine muscle has a better blood supply and is able to survive. Deprived of blood, nutrition, and oxygen, fibroids shrink like prunes for the three to six months following embolization, and the symptoms from the fibroids often lessen as well. Non invasive or less invasive procedures in medicine are taking place worldwide nowadays in clinical practice, so this article brings the need of application of these treatment methods as a treatment option in our patient care service.

**Introduction**

Uterine fibroid are the most common cause of gynecological intervention in female surgery in general; laparotomy is the most common surgical technique worldwide and in the last decade or so laparoscopy has taken place when the infrastructure in technology and specializes human resources are available. In Albania, the classical surgery like laparotomy is the most common surgical procedure in gynecology intervention, however, other techniques available in developed medical systems are available options and perfection of these techniques are promising and cost-effective as well.

The environment of medicine is constantly changing, and for the past few decades, interventional radiologists have been responsible for much of the medical innovation and development of the minimally invasive procedures that are commonplace today. Interventional radiologists pioneered modern medicine with the invention of angioplasty and the catheter-delivered stent, which were first used to treat peripheral arterial disease. On January 16, 1964, Doctor Charles Dotter, who was then chairman of radiology at the University of Oregon Medical School, performed the first recorded angioplasty in the world when he used progressively larger catheters to dilate a distal superficial femoral artery stenosis. The patient was an elderly woman with rest pain and gangrenous toes who had only been offered amputation of her foot.

Improving patient care and providing advanced treatment options are always on the minds of physicians in general, particularly for interventional radiologists. This could be a game changer for image-guided minimally invasive treatments.

Uterine fibroids (figure 1), which affect up to 60 percent of all women 45 and older,<sup>1</sup> can cause prolonged, heavy menstrual bleeding that can be severe enough to cause anemia or require transfusion; disabling pelvic pain and pressure; urinary frequency; pain during intercourse; and miscarriage. Typically, interventional radiologists have delivered treatment directly to the fibroid, by threading a catheter through a woman's femoral artery in her thigh. Recent approach, the interventional radiologists threaded a catheter through one of two arteries in a woman's left wrist, however, however, much larger prospective, randomized trial is needed to validate conclusions about specific benefits of this novel approach. They then made a tiny nick in the skin, less than 0.5 cm, and inserted a catheter into the artery.<sup>2</sup> Via real-time imaging; the doctor guides the catheter through the artery and then released tiny particles, the size of grains of sand, into the uterine arteries that supply blood to the fibroid tumor. This obstructs the blood flow to the fibroid tumor and caused it to shrink and symptoms to subside.

## Discussion

Uterine fibroid embolization (Figure 2) is a non-surgical technique that shrinks fibroids without removing them surgically. The procedure is performed by an interventional radiologist, a medical doctor with certification in radiology and special education and certification in interventional radiology. Patient does not need to be put to sleep, but sedating medications are given in the vein to help relax the patient during one to two hours that procedure takes. A small incision is made in the groin directly over the artery carrying blood to the leg. The interventional radiologist guides a long thin catheter into the blood vessels that supply the uterus while monitoring the process under X-ray. Small plastic particles are pushed through the catheter until they form a blockade to the blood flowing to the uterus. Fibroids have a limited supply of blood vessels, and with the blood flow blocked, the fibroid cells start to die off. The surrounding normal uterine muscle has a better blood supply and is able to survive. Deprived of blood, nutrition, and oxygen, fibroids shrink like prunes for the three to six months following embolization, and the symptoms from the fibroids often lessen as well. Non invasive or less invasive procedures in medicine are taking place worldwide nowadays in clinical practice, so this article brings the need of application of these treatment methods in routinely in patient care service.

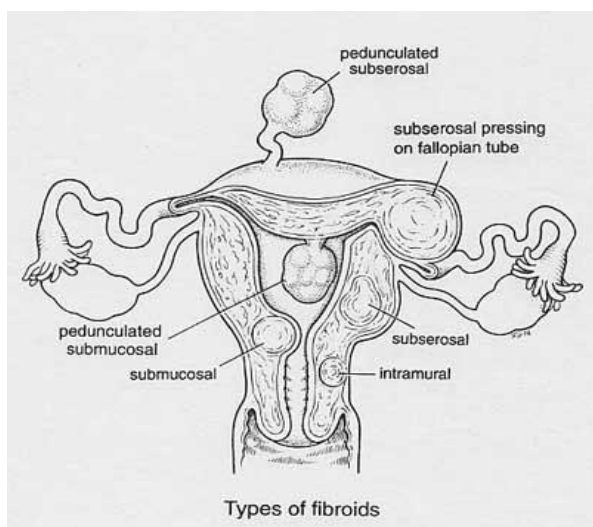


Figure 1. Uterine fibroids

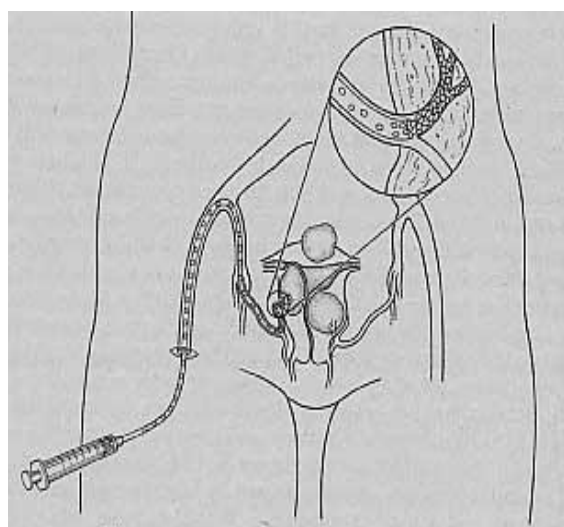


Figure 2. Uterine fibroid embolization

### *Recovery and cost effectiveness*

After embolization blocks the blood supply to the fibroids, the cells of the fibroid start to die off immediately. The dying cells release toxins that irritate the surrounding tissue and cause pain and inflammation. Almost all women have moderate to severe pain for the first day or so after uterine artery embolization and are kept in the hospital for one day so that they can be given narcotic pain medication. Anti-inflammatory medications, like ibuprofen, are also given to keep the inflammation down in the uterus. Analgesics/opioid combos like acetaminophen/codeine is given for the fever that commonly follows the procedure.

However, most women are able to go home the next morning and only need to take oral pain and anti-inflammatory medications for the next few days. As with all medical procedures, the recovery varies from woman to woman. Many women feel back to normal within a few days and return to regular activity within a week or so. Other women have pain or discomfort for weeks and may not get back to normal activity for a few weeks or, rarely, even months.

### *Medical prognosis and safety*

Many women will notice a relief of fibroid symptoms within six weeks after the procedure. However, it takes a few months for the fibroids to fully shrink and the full effect of the procedure to be evident. Three to six months following uterine fibroid embolization, the uterus and fibroids will have decreased about 40 percent in size.<sup>3</sup> About 90 percent of women who were bothered by symptoms related to the size of their fibroids will have a significant improvement and be satisfied with the results.<sup>3</sup> Likewise, about 85 percent of women who had heavy bleeding from their fibroids will have lighter and shorter periods and be satisfied with the results.<sup>4</sup> About 10 to 15 percent of women who have uterine fibroid embolization will continue to have bothersome symptoms and usually require other treatment.<sup>4, 5, 6</sup>

About 25,000 women worldwide have had uterine fibroid embolization performed for uterine fibroids. To date, the procedure has been extremely safe. The Society of Interventional Radiology reports only four deaths from this procedure or 1 out of every 6,000 women who have had uterine fibroid embolization.<sup>5, 6</sup> For comparison, the risk of dying from surgery or anesthesia for a hysterectomy is about 2 out of 6,000 women.<sup>5, 6</sup> Risks for an individual are related to your medical condition, your age, and the disease for which you are being treated. Comparing risks of uterine fibroid embolization to hysterectomy for women of similar age and condition with fibroids, it appears that the serious risks may be slightly lower with uterine fibroid embolization.<sup>7</sup>

## Conclusion

Uterine fibroid embolization works well to decrease pain, pressure, and bleeding from fibroids in most women who have the procedure. It is less invasive than surgical treatments for uterine fibroids. Many women may return more quickly to activities than after surgery. As with other treatments for uterine fibroids, some women may require other treatment. Non invasive or less invasive procedures in medicine are taking place worldwide nowadays in clinical practice, so treatment method should be the option in Albanian patient care service, where the infrastructure and specialized human resources must be available first.

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