

**Role of Uterine Artery Embolization using
Embolic Microspheres in Treatment of
Uterine Fibroid**

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سببنا أنك لا تعلم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

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List of Abbreviations

Abb.	Full term
<i>aPVA</i>	<i>Acrylamido Polyvinyl Alcohol</i>
<i>HRQOL</i>	<i>Health Related Quality OF Life</i>
<i>IUCD</i>	<i>Intra Uterine Contraceptive Device</i>
<i>nsPVA</i>	<i>Non spherical Polyvinyl alcohol</i>
<i>PVA</i>	<i>Polyvinyl alcohol</i>
<i>sPVA</i>	<i>spherical Polyvinyl alcohol</i>
<i>TAGM</i>	<i>Trisacryl Gelatin Microspheres</i>
<i>UAE</i>	<i>Uterine Artery Embolization</i>
<i>UFE</i>	<i>Uterine Fibroid Embolization</i>
<i>UFS</i>	<i>Uterine Fibroid Symptoms</i>

Abstract

It deserves our attention to its value and efficacy for the sake of the patient as a minimally invasive procedure providing better quality of life.

Uterine artery embolization using Embosphere and Embozene microspheres have the same symptomatic effect and volume reduction of the dominant fibroid after three months follow up in compare with using Embosphere alone or with spherical polyvinyl alcohol particles.

Keywords: Trisacryl Gelatin Microspheres - UAE Uterine Artery Embolization - UFE Uterine Fibroid Embolization

INTRODUCTION

Uterine Artery Embolization (UAE) is considered now a well-established intervention for treatment of symptomatic fibroids with clinical efficacy comparable with traditional surgical treatment (*Gupta et al., 2014*).

UAE is now frequently proposed as an organ preserving treatment to the younger women willing to conceive. It has been proven, in a large cohort of women wishing to conceive before embolization, that pregnancies can occur after UAE (*Pron et al., 2005*).

The first generation of microparticles is non-spherical polyvinyl alcohol particles (ns-PVA, Boston Scientific, Natick, MA, USA and Ivalon, Cook Medical, Bloomington, IN, USA) which showed favorable results but the non-spherical shape had some disadvantages and the following calibrated spheres has been developed. Currently, there are five types of microspheres available, tris-acryl gelatin microsphere (ex. Embosphere), Acrylamido polyvinyl alcohol micro-sphere (ex. Bead Block), polymer Polyzene-F (ex. Embozene), Polyethylene glycol microsphere (ex. HydroPearl) and spherical polyvinyl alcohol microsphere (Contour SE) (*Rasuli et al., 2008; Siskin et al., 2008; Spies et al., 2005*).

Spherical PVA is no longer available and EmboGold is no longer recommended for UAE by the manufacturers (*Champaneria et al., 2014*).

The most commonly used microspheres in clinical practice are Embospheres, Embospheres and Bead Block. However, the potential difference between these microspheres has not been studied extensively, and there is still no evidence in favour of any of these microspheres (*Champaneria et al., 2014*).

Although ns-PVA has the widest body of experience and is currently in use, it can cause unpredictable embolization and variable levels of arterial occlusion (*Pelage et al., 2002*).

Some studies have suggested that ns-PVA particles may lodge in the perifibroid vascular plexus and calibrated microspheres are preferred for deeper penetration into the fibroid itself (*Chua et al., 2005*).

AIM OF THE WORK

The study aims to evaluate the effect of uterine artery embolization using Trisacryl Gelatin Microspheres (Embosphere) and Polyphosphazene-Hydrogel Microspheres (Embozene) microspheres in treatment of patients with uterine fibroid.