

# Partial Splenic Artery Embolization in the Treatment of Hypersplenism

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## CASE PRESENTATION

A 30-year-old woman with a history of hepatitis B virus-related cirrhosis presented to our institution. In 2013, she underwent transarterial chemoembolization for hepatocellular carcinoma, followed by liver transplantation in August 2014.

After surgery, the patient developed portal hypertension and hypersplenism (Figure 1). Partial splenic embolization was proposed.

## PROCEDURE DESCRIPTION

From a right femoral access, we catheterized the splenic artery to perform diagnostic angiography using a 5-F sheath and a 4-F cobra catheter (Figure 2). We then decided to go distally to the peripheral intrasplenic branches to perform a more selective embolization.

A torqueable Direxion™ Microcatheter and a Fathom®-16 Guidewire were easily advanced through a tortuous splenic branch to perform superselective catheterization of three vessels supplying the upper middle third of the spleen. Subsequently, we embolized those branches using microcoils (Figure 3). After embolization, the patient developed transient abdominal pain, which remitted with administration of pain relief medication.

## FOLLOW-UP AND DISCUSSION

A postembolization CT scan demonstrated a successful embolization with evidence of partial devascularization of the spleen, with minimal perisplenic and perihepatic fluid and the absence of major complications (Figure 4).

The patient showed significant reduction of portal pressure and was discharged a few days later. She was still in good clinical condition at follow-up. ■

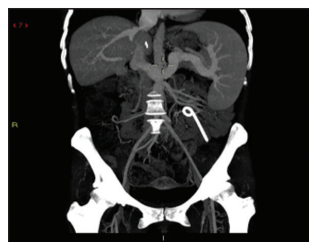


Figure 1.

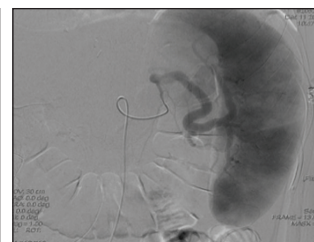


Figure 2.

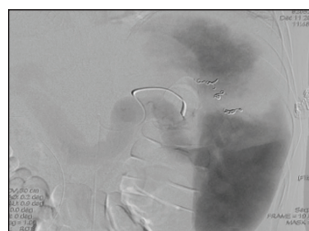


Figure 3.



Figure 4.

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### Direxion Direxion HI-Flo

**CAUTION:** Federal law (USA) restricts this device to sale by or on the order of a physician. Rx only. Prior to use, please see the complete "Directions for Use" for more information on Indications, Contraindications, Warnings, Precautions, Adverse Events, and Operator's Instructions.

#### INTENDED USE/INDICATIONS FOR USE

The Direxion and Direxion HI-FLO Torqueable Microcatheters are intended for peripheral vascular use. The pre-loaded Fathom and Transend Guidewires can be used to selectively introduce and position the microcatheter in the peripheral vasculature. The microcatheter can be used for controlled and selective infusion of diagnostic, embolic, or therapeutic materials into the vessel.

#### CONTRAINDICATIONS

None known.

#### WARNINGS

- Never advance or withdraw an intravascular device against resistance until the cause of resistance is determined by fluoroscopy. Movement of the microcatheter or guidewire against resistance may result in damage or separation of the microcatheter or guidewire tip, or vessel perforation.
- This Direxion Microcatheter family is not intended for use in the coronary vasculature or neurovasculature.
- The Direxion HI-FLO Microcatheter is not designed for the delivery of embolic coils.
- Use of excessive force to manipulate the microcatheter against resistance can cause a fracture in the nitinol shaft. Take care not to over-torque the microcatheter, and to relieve any tension before withdrawal by rotating the microcatheter in the opposite direction.

#### PRECAUTIONS

- This device should be used only by physicians thoroughly trained in percutaneous, intravascular techniques and procedures.
- Do not introduce the microcatheter without guidewire support as this may cause damage to the proximal shaft of the catheter.
- Because the microcatheter may be advanced into narrow sub-selective vasculature, repeatedly assure that the microcatheter has not been advanced so far as to interfere with its removal.

#### ADVERSE EVENTS

The Adverse Events include, but are not limited to: allergic reaction, death, embolism, hemorrhage/hematoma, infection, pseudoaneurysm, stroke, vascular thrombosis, vessel occlusion, vessel spasm, vessel trauma (dissection, perforation, rupture).

### Fathom-16 Steerable Guidewire

**CAUTION:** Federal law (USA) restricts this device to sale by or on the order of a physician. Rx only. Prior to use, please see the complete "Directions for Use" for more information on Indications, Contraindications, Warnings, Precautions, Adverse Events, and Operator's Instructions.

#### INTENDED USE/INDICATIONS FOR USE

The FATHOM -16 Steerable Guidewire is intended for general intravascular use in the peripheral vasculature. It can be used to selectively introduce and position catheters and other interventional devices within the peripheral vasculature. This device should be used only by physicians trained in percutaneous, intravascular techniques and procedures.

#### CONTRAINDICATIONS

None known.

#### WARNINGS

The FATHOM Steerable Guidewire is not intended for use in the coronary vasculature or the neuro vasculature.

#### ADVERSE EVENTS

Complications attributed to endovascular procedures are the following: vessel trauma, vessel damage, embolism (catheter/device, air bubble, plaque, thrombus, air embolism, thromboembolism), pseudoaneurysm, seizure/stroke, vessel dissection, hematoma at the puncture site, nerve injury, infection, perforation of the vessel, vessel spasm, hemorrhage, vascular thrombosis, vessel occlusion, death, bleeding, failed treatment, inability to position guidewire, damage to the catheter.