

Progreat λ TM
Lambda

Micro Catheter System

Case Report

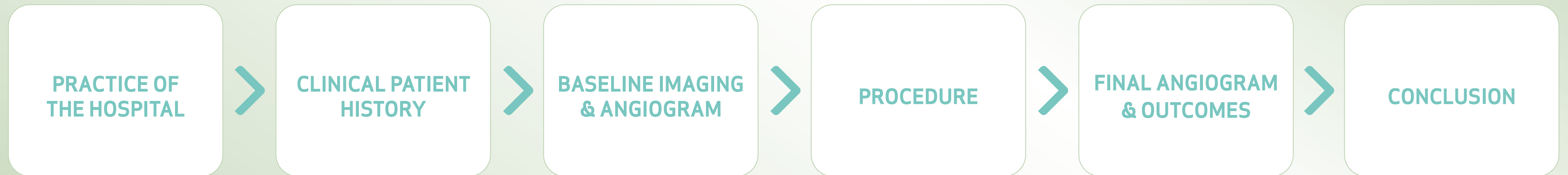
GENICULAR ARTERY EMBOLIZATION WITH PROGREAT LAMBDA

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GENICULAR ARTERY EMBOLIZATION WITH PROGREAT LAMBDA





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Genicular Artery Embolization with Progreat Lambda

GENERAL PRACTICE OF THE HOSPITAL

- The patient is instructed to arrive **30 minutes prior** to the procedure.
- The patient must **fast for 6 hours** before the procedure.
- In the weeks leading up to the procedure, the nursing team will:
 - ▣ Contact the patient to review **coagulation test results**.
 - ▣ Manage any **anticoagulant or antiplatelet medications** the patient may be taking.
 - ▣ Confirm **admission and recovery room times**.
 - ▣ Ensure the patient will be **accompanied** and will **not drive afterward**.
 - ▣ Address any **additional questions** the patient may have.

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Genicular Artery Embolization with Progreat Lambda

PRACTICE OF THE HOSPITAL

- The procedure begins with the administration of **local anesthesia**, followed by an **antegrade femoral puncture** on the affected knee side.
- Vascular access is always performed under **ultrasound guidance**, targeting the **common femoral artery**.
- A **guidewire** is advanced, and a **5Fr femoral introducer sheath** (Terumo Radifocus Introducer II 5Fr) is inserted into the **superficial femoral artery**.
- Advancement continues using a **hydrophilic guidewire** (Terumo Radiofocus Guide Wire M 0.035", 150 cm), in combination with a **60cm catheter**—typically Bern, vertebral, or cobra-shaped.
- **Proximal to Hunter's canal**, an **angiogram or cone-beam CT (CBCT)** is performed to assess the vascular anatomy and plan the next steps of treatment.
- During this phase, the **genicular arteries** are systematically explored. The sequence typically begins with the **articular branch of the descending genicular artery**, followed by the superior and inferior genicular arteries, with particular attention paid to the **lateralization of the patient's symptoms**.

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PRACTICE OF THE HOSPITAL

- My preferred microcatheter for embolizing small arteries is the **Terumo Progreat Lambda 1.7Fr, 130 cm**, which is available with either an Angle or Triple-Angle tip.
- This microcatheter is used in conjunction with the **Terumo GT Wire**. While various tip configurations are available—such as angled, double-curved, and 90°—the Terumo GT Wire is easily moldable to accommodate the patient's specific vascular anatomy.
- The **Triple Angle** of the microcatheter is particularly advantageous for catheterizing the **superior genicular arteries**, which typically present with an anterior and cranial orientation and often arise from a small common trunk.
- In many cases, the microcatheter can be advanced without the use of a microguidewire*, and this approach is sometimes even recommended when feasible, as it may help minimize the risk of vasospasm.

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*This mode of use is not recommended by the IFU.

Progreat λ is intended for therapeutic embolization and angiography in peripheral vessels.
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Genicular Artery Embolization with Progreat Lambda

CLINICAL PATIENT HISTORY

Medical History:

- Age: 69 years
- Gender: Female
- Presenting Complaint: Chronic pain (>2 years), localised to the lateral compartment of the left knee
- Referral: Self-referral; patient is a general practitioner physician

Medical History:

- Mild osteoarthritis (Kellgren-Lawrence grade II)
- Refractory knee synovitis with recurrent effusions and reduced mobility
- History of multiple corticosteroid infiltrations
- Daily NSAID use during acute phases

Baseline Assessments:

- VAS (0-10): 9
- WOMAC (Total): 53



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Genicular Artery Embolization with Progreat Lambda

BASELINE IMAGING & ANGIOGRAM



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Genicular Artery Embolization with Progreat Lambda

BASELINE IMAGING & ANGIOGRAM

■ We can observe the vascular blush affecting the medial side of the patient's knee.



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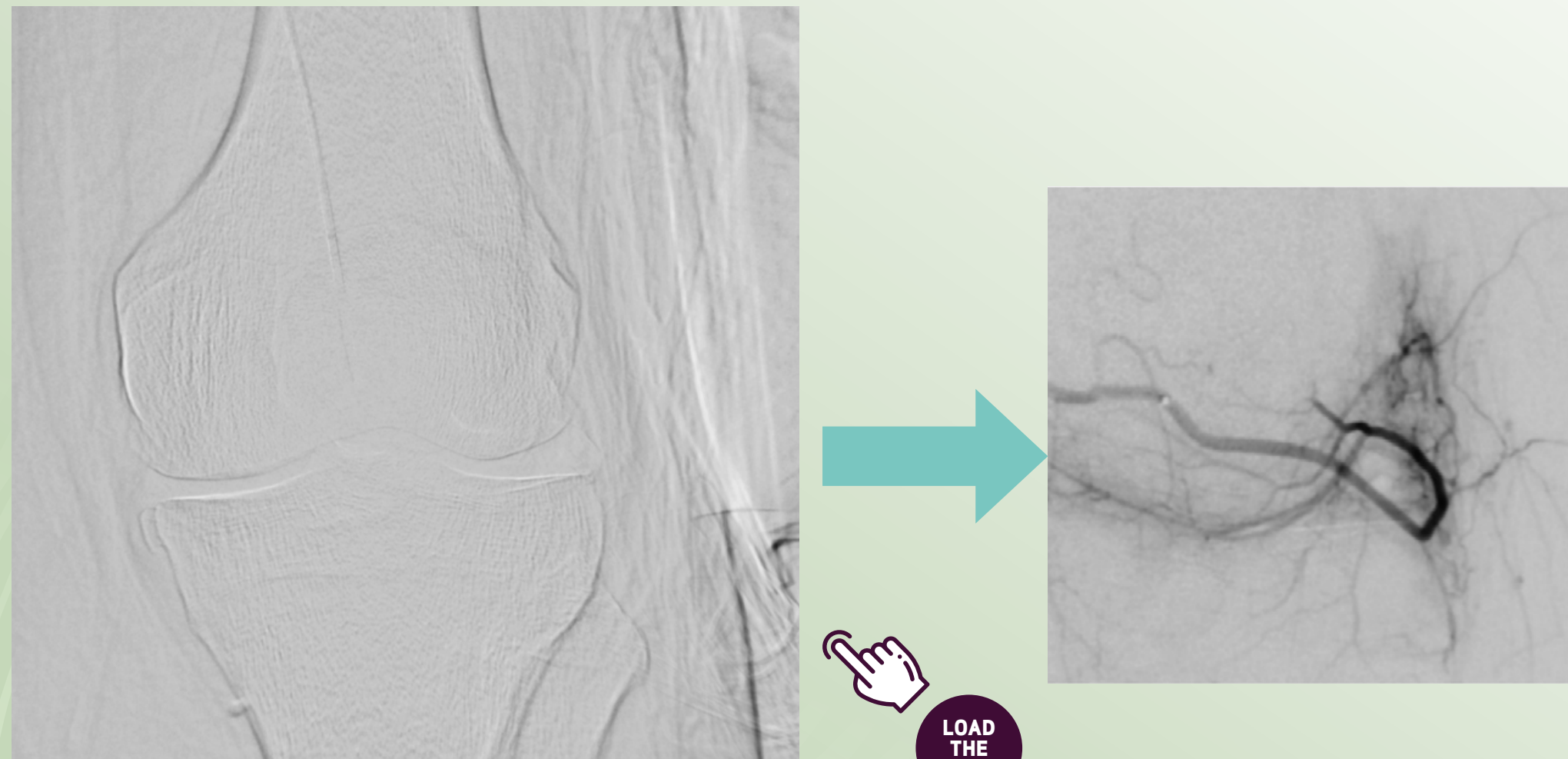


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Genicular Artery Embolization with Progreat Lambda

BASELINE IMAGING & ANGIOGRAM

- The initial angiogram of the inferior lateral genicular artery demonstrates a prominent vascular blush localized to the lateral aspect of the knee.
- This finding is indicative of neovascularization, with abnormal microvessels likely under 50 microns in diameter, secondary to chronic inflammation associated with osteoarthritis.



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Genicular Artery Embolization with Progreat Lambda

PROCEDURE

STEP 4: Intervention

- A **Radifocus Introducer II 5Fr** was inserted into the **left common femoral artery** under **ultrasound guidance**.
- Following contrast injection through the sheath, an angiogram was performed, and a **4 Fr Bern catheter** was selected.
- Based on the findings of the initial angiogram, the **descending genicular artery, the inferior lateral genicular artery, and the inferior medial genicular artery** were catheterised using a **0.016-inch angled Glidewire GT** in combination with a **Progreat Lambda 1.7 Fr microcatheter** with a triple-angle tip.
- Thanks to the **flexible angled tip** of the Progreat Lambda, even in challenging vascular anatomies, the **1.7 Fr microcatheter** was advanced distally without the aid of a guidewire*—a technique that can reduce the risk of vasospasm.
- Once the microcatheter was selectively positioned, a total of 1.8 millilitres of Imipenem/Cilastatin, used off-label as an embolic agent, was slowly injected across the three targeted arteries in 0.3 millilitre boluses.
- The final angiogram confirmed that the main artery remained open and that blood flow had ceased in the abnormal neovasculature, matching the initial contrast-enhanced area.

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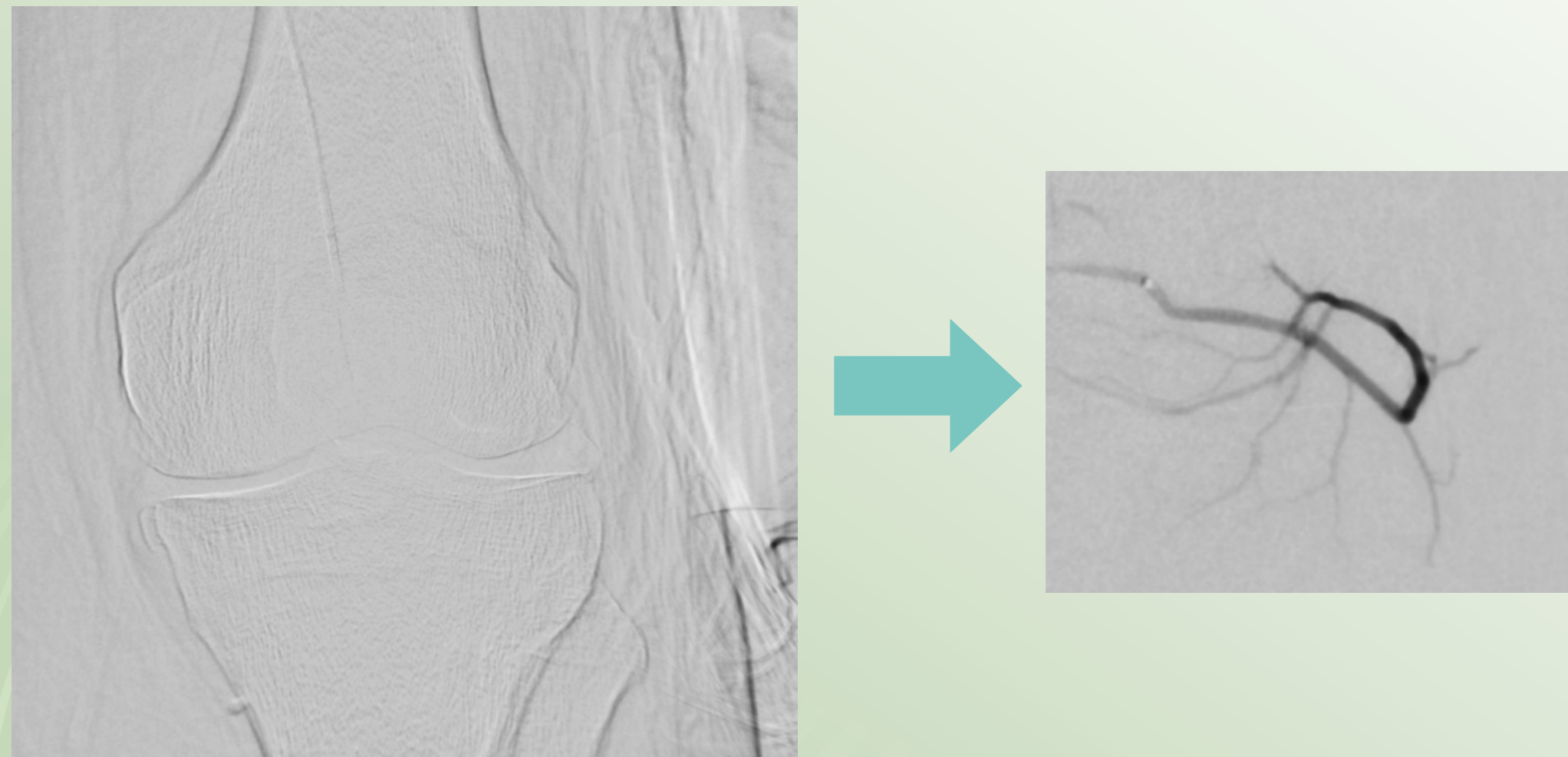


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Genicular Artery Embolization with Progreat Lambda

FINAL ANGIOGRAM & OUTCOME

- The final angiogram obtained after embolization of the inferior lateral genicular artery is a good example of selective pruning of abnormal vasculature.
- It demonstrates the preservation of the essential vascularization.



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Genicular Artery Embolization with Progreat Lambda

CONCLUSION

- The procedure requires precise arterial access under ultrasound guidance, followed by detailed angiographic mapping of the genicular arteries.
- Navigation through these vessels demands careful handling of microcatheters and microguidewires, often using specially shaped configurations for optimal control.
- The Progreat Lambda microcatheter (1.7 or 1.9 Fr), particularly in angled or triple-angle designs, is especially useful for smooth catheterisation—most notably in the superior genicular arteries due to their anatomical configuration.
- Using a microcatheter smaller than 2.0 Fr is recommended for genicular artery embolization, given the small vessel calibre and their susceptibility to vasospasm.
- The ultimate objective is to selectively embolise pathological vessels while preserving the normal arterial supply to surrounding tissues.

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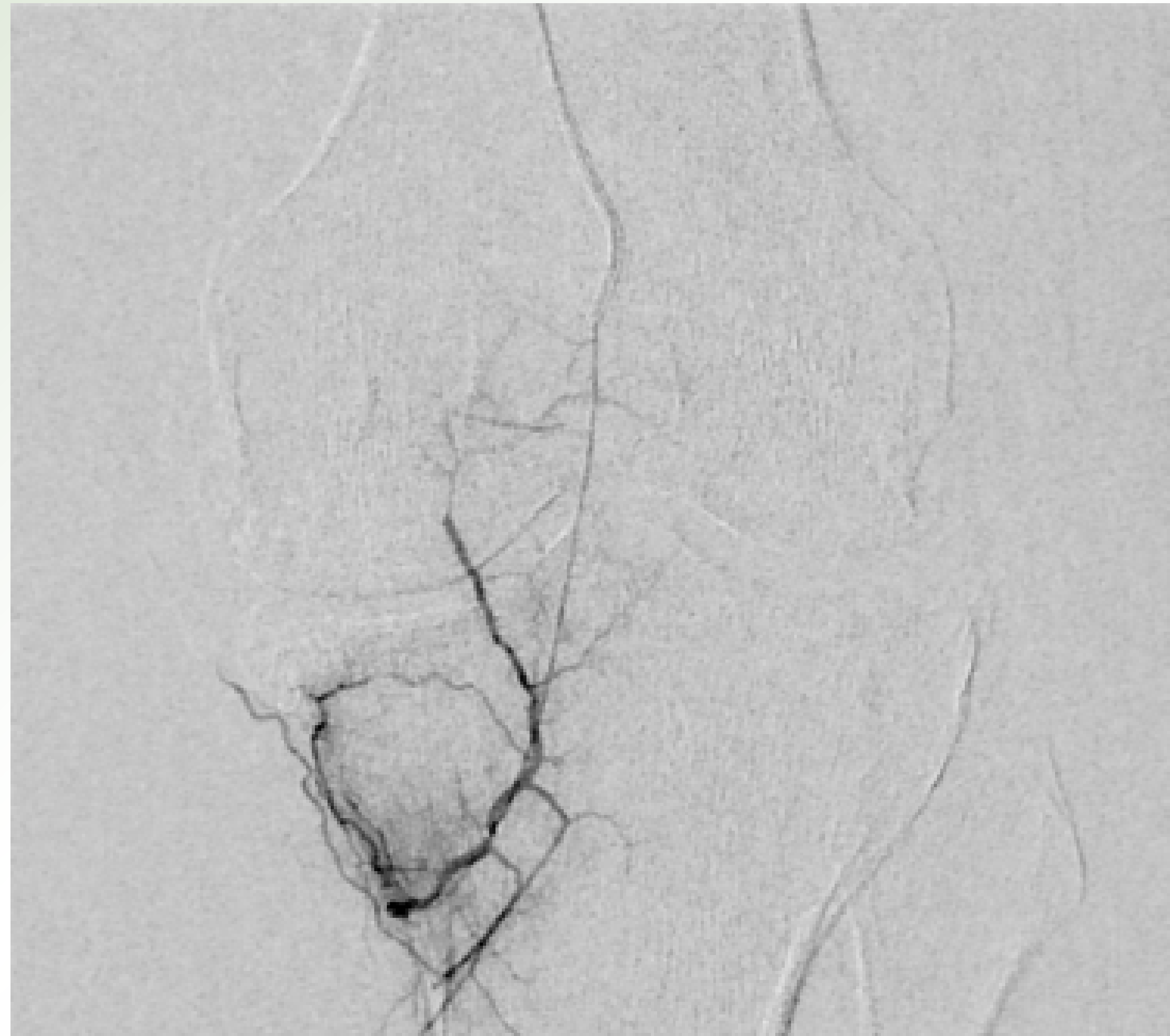


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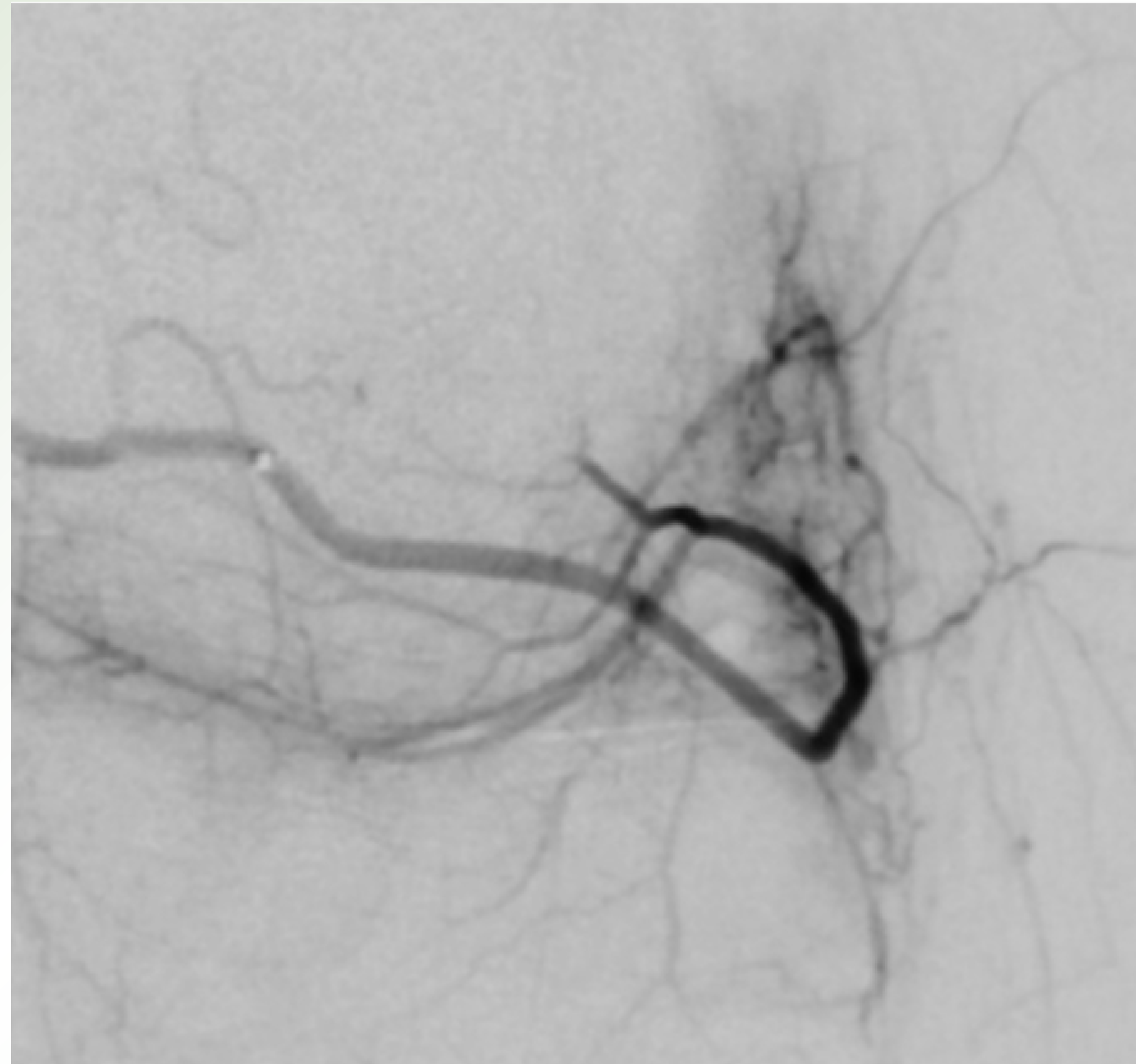


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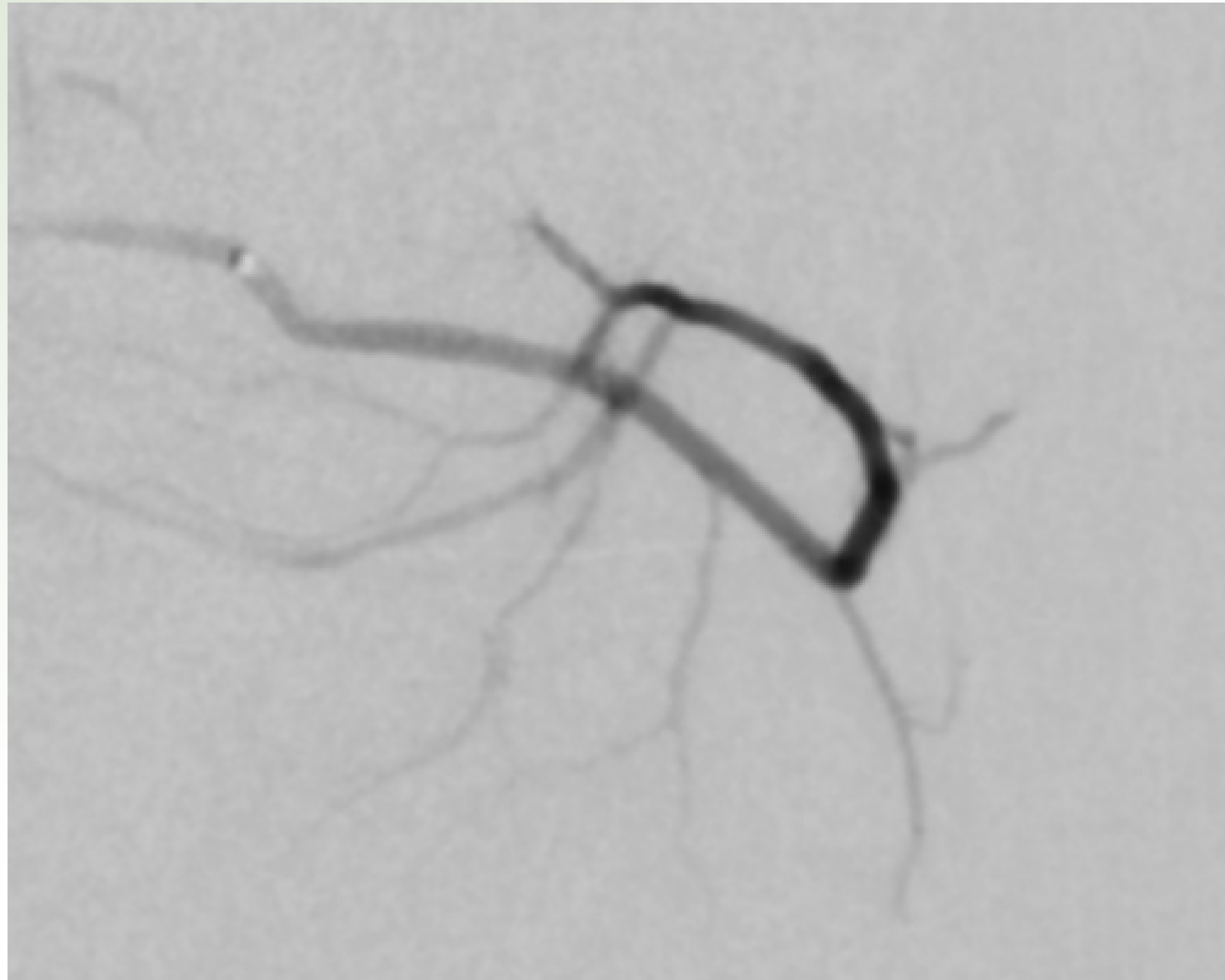


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