

Geniculate artery embolization for painful knee osteoarthritis

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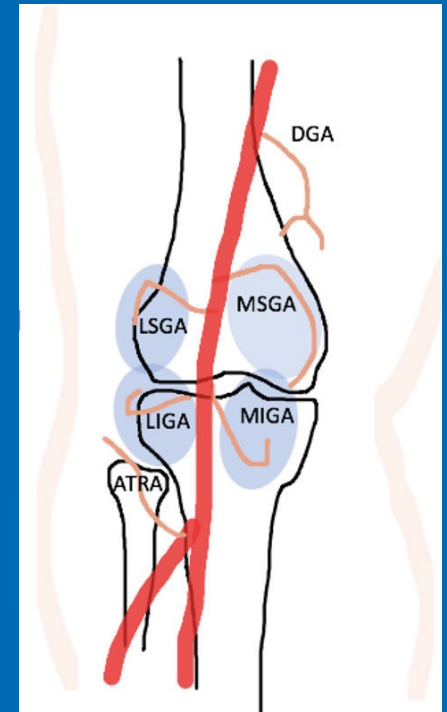
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What is Geniculate Artery Embolization (GAE)?

- Knee osteoarthritis leads to inflammation of the synovial lining of the knee joint
- New blood vessel growth and nerve formation from inflammation leads to pain
- In a GAE procedure, a tiny catheter is placed via an artery into the blood vessels supplying the joint lining, and tiny particles are injected to reduce the blood flow to the inflamed tissue
- This ‘embolization’ helps reduce inflammation in the painful knee joint



LC Casadaban; CVIR 2020

Patient selection – Are you a good candidate?

May be suitable candidates for GAE:

- Age 40-80 years
- Moderate to severe knee pain (Visual analog score >5)
- Osteoarthritis based on x-ray, without boney deformity / sclerosis
 - (Kellgren-Lawrence Grade 1-3)
- Local knee tenderness
- Resistant/non-responsive/recurrent symptoms after conservative treatment, including NSAIDs, physical therapy, joint injection)

May not be unsuitable candidates for GAE:

- Peripheral vascular disease (history of smoking)
- Advanced arthritis on x-rays (Kellgren-Lawrence Grade 4)
- Knee joint infection or malignancy
- Good candidate for knee replacement surgery

Clinical response to GAE?

Review of key recent studies

Author / Journal	Patient #	WOMAC scores	VAS scores
GAE alone			
Okuno et al <i>J Shoulder Elbow Surg</i> 2014	14	47 → 6 @ 3 months	70 → 13 @ 3 months
Okuno et al <i>JVIR</i> 2017	72	43 → 11 @ 12 months	72 → 19 @ 12 months
Bagla et al <i>JVIR</i> 2019	20	61 → 31 @ 12 months	76 → 31 @ 12 months
Lee et al <i>CVIR</i> 2019	59	----	55 → 19 @ 12 months
Randomized trial (GAE vs. sham angiogram without embolization)			
Bagla et al <i>JVIR</i> 2021	21	GAE: 65 → 30 @ 12 months **Sham: No response, all eventually underwent GAE	GAE: 81 → 27 @ 12 months

For all studies:

Inclusion criteria: Age 40+; Pain refractory to conservative therapies, NSAIDs, and joint injections; VAS > 50; KL Grade 1-3

Exclusion criteria: Renal disease, lower extremity atherosclerosis; Infectious or Rheumatoid Arthritis; Contrast allergy

What can you expect from your GAE care?

How to arrange for a GAE consultation:

- Fill out a consult request form @ www.bostonvir.com OR
- Call BIDMC Interventional Radiology Office: (617) 754 2523

When you contact our office:

- Initial consultation / visit with an Interventional Radiology physician to discuss your symptoms and determine whether GAE is right for you, including:
 - Review of your medical history
 - Obtaining copies of your previous imaging and / or medical records
 - Completion of symptom severity (VAS and WOMAC) questionnaires

If you are a suitable candidate for GAE and would like to proceed:

- Scheduling an outpatient GAE procedure in 4-6 weeks
- Outpatient GAE procedure
 - Total 6-7 hours (arrival 1.5h before, procedure time 1.5h, recovery time 3h)
- Follow-up visit in Interventional Radiology Clinic @ 1 week and 6 weeks after GAE