

History:

- 3 year old female with 4 month history of pretibial swelling.
 - No known trauma.
 - Not painful.
 - No overlying skin abnormality.
 - Otherwise healthy.





EXTREMITIES

L10-5 10

FPS 17h

General (2D) ▶

Distance

Distance

Trace Length

Trace

Ellipse

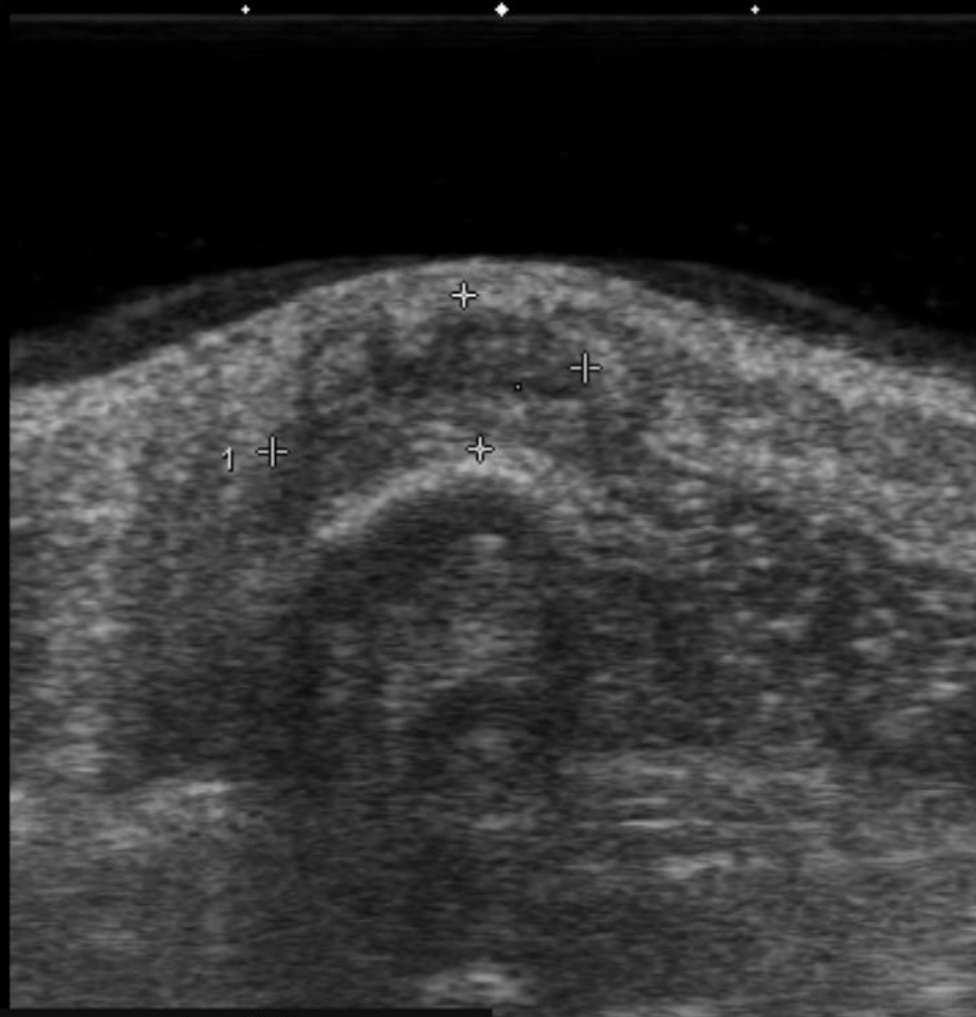
Volume ▶

AVB Ratio

%Stenosis



OFF
UOS
TIBIA
LT
TRV



1 / 1

40

D1 = 12.7mm

D2 = 6.1mm

64

MI 0.9

V 100%



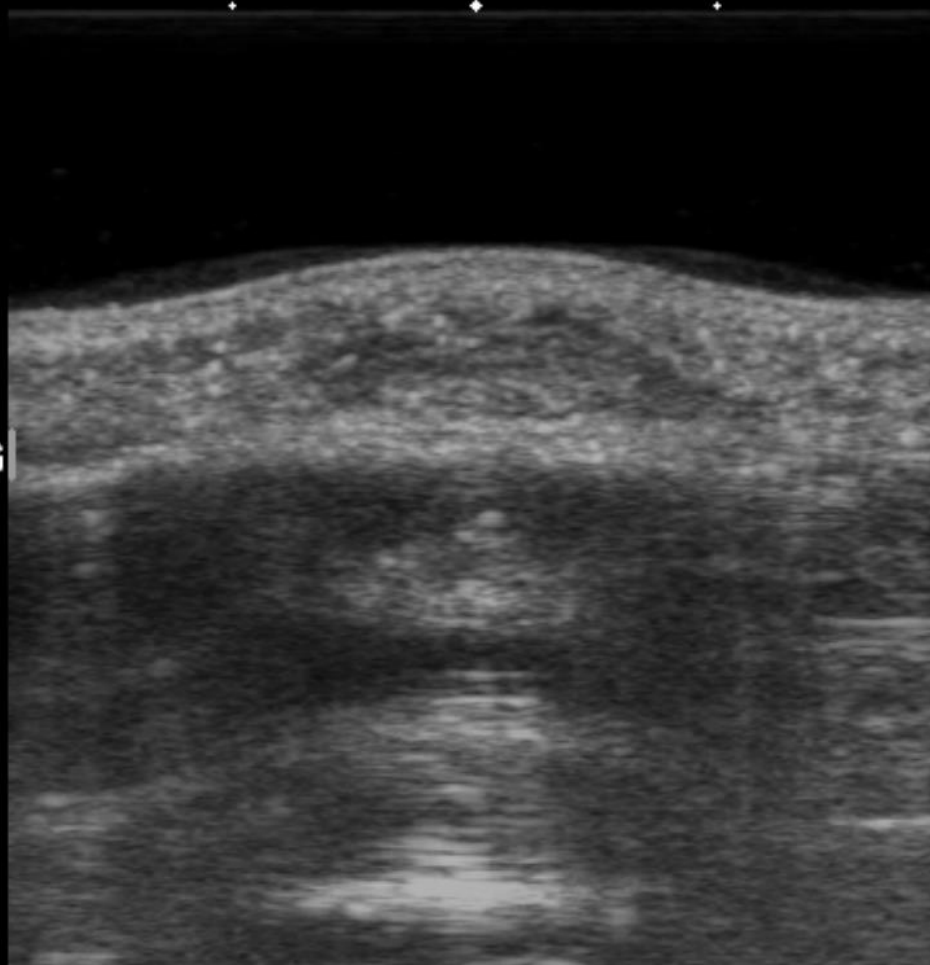
EXTREMITIES

L10-5 10

FPS 17h



OFF
UOS
TIBIA
LT
LONG



B

Img 2

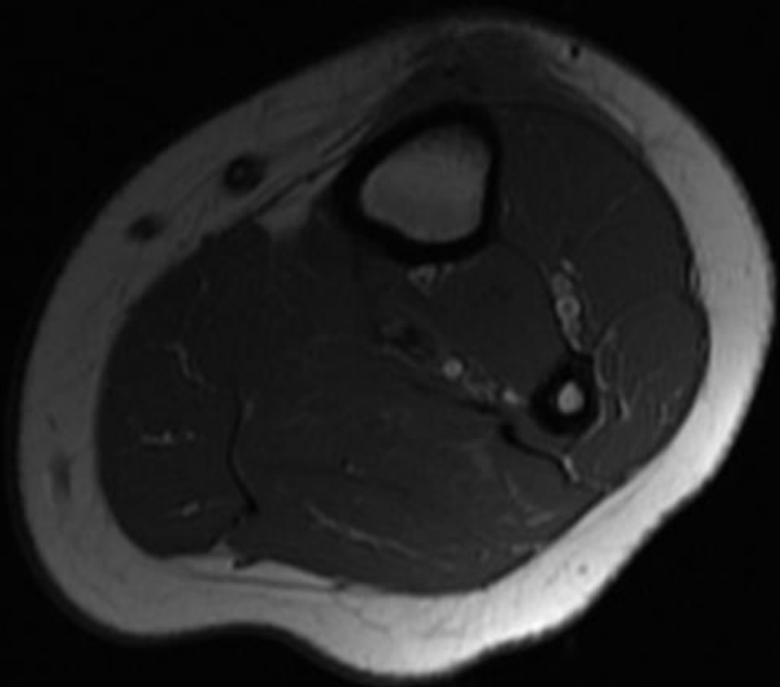
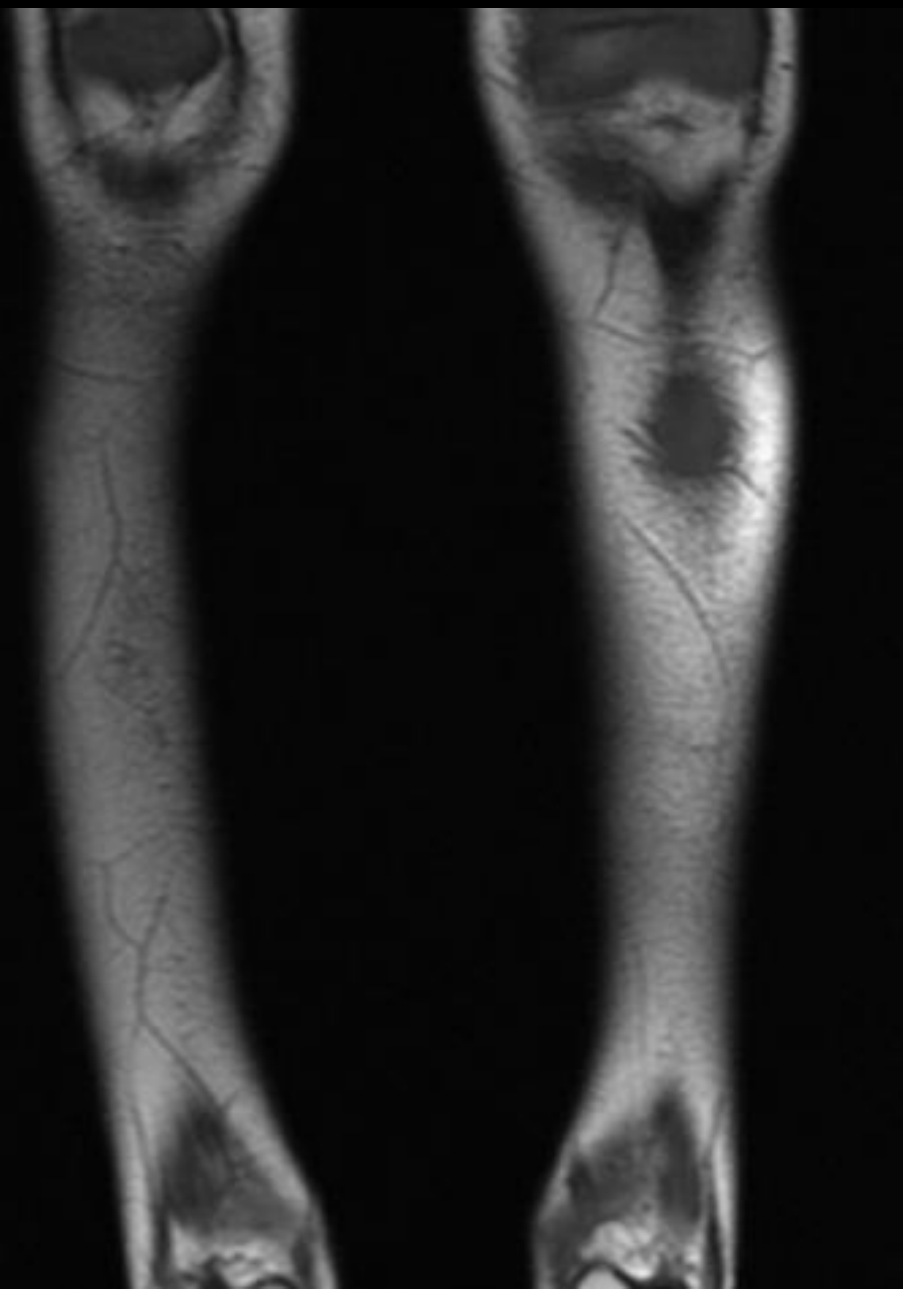
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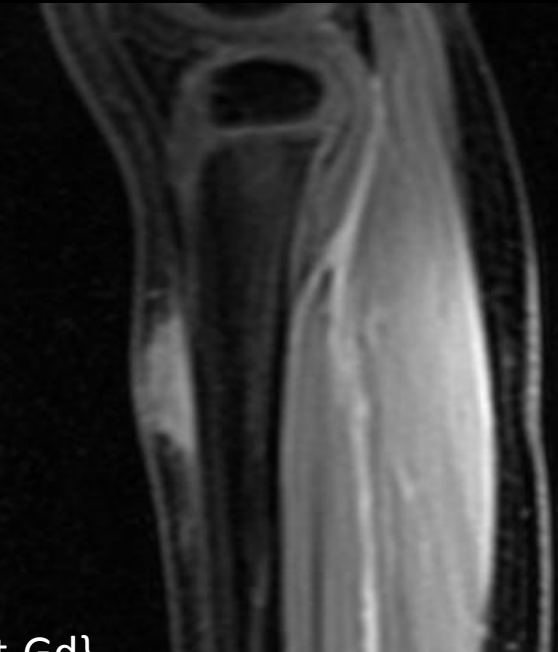
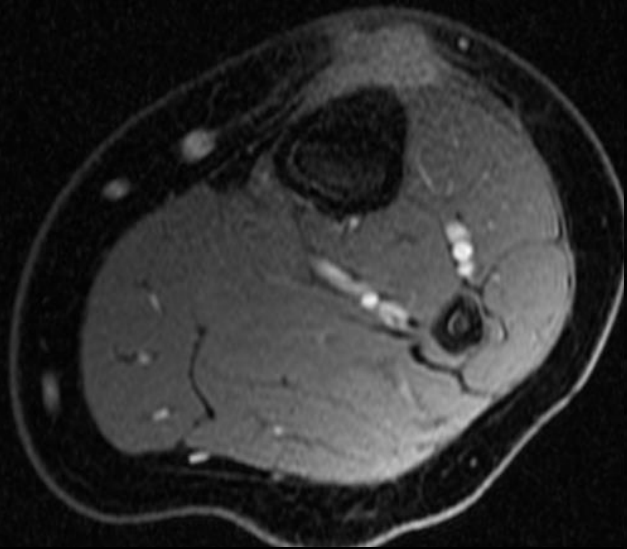
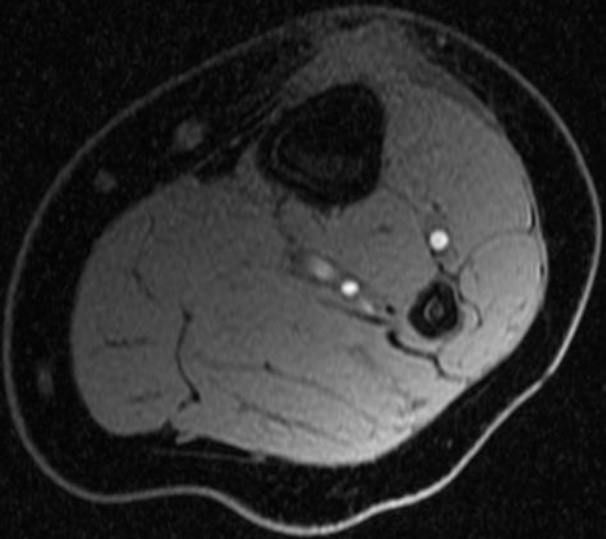
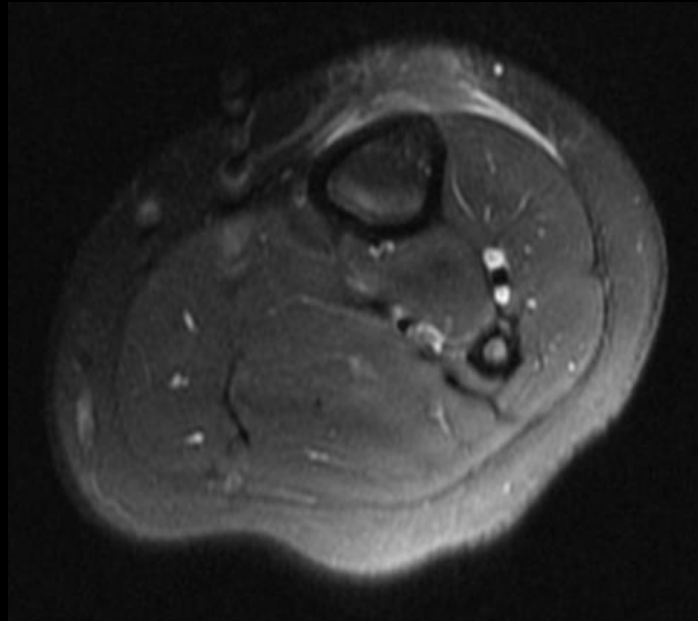
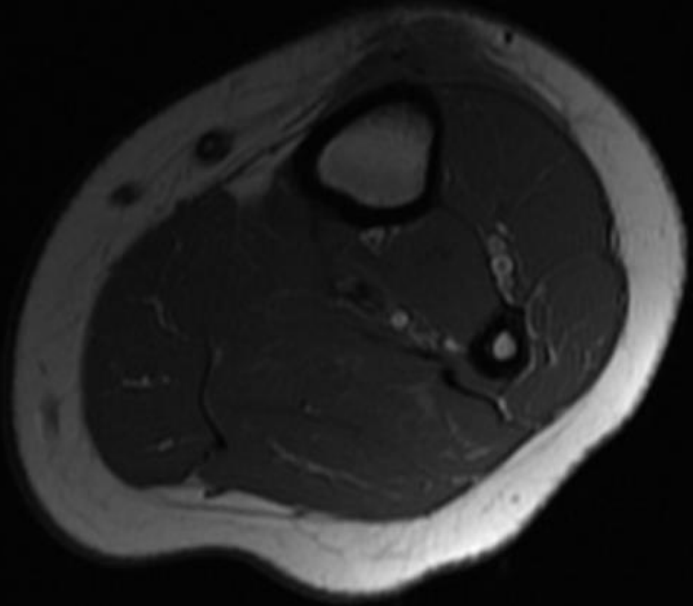
49

MI 0 0

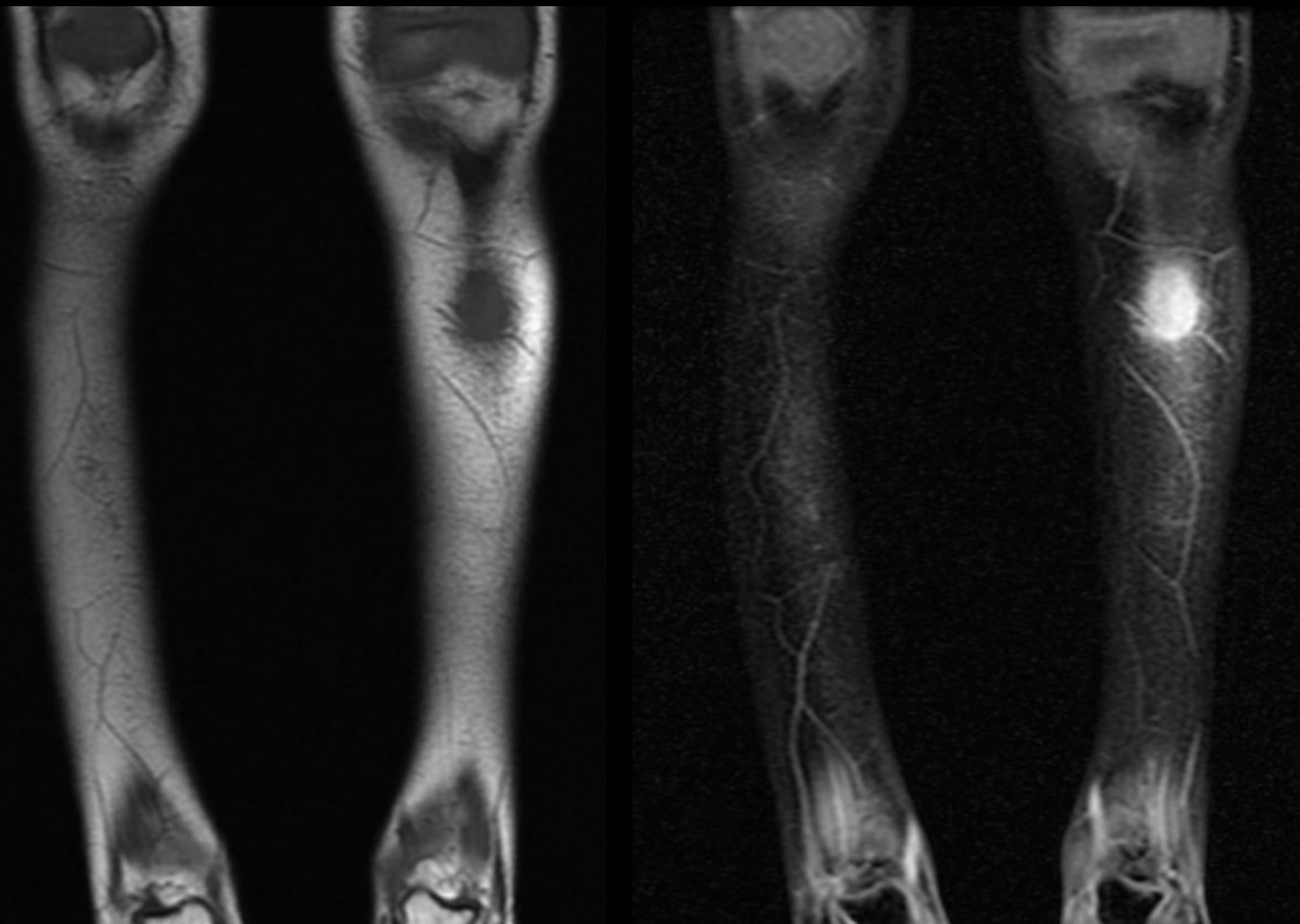
W 100%







{post-Gd}



Granuloma Annulare

- Benign group of inflammatory dermatoses.
 - Dermal papules with tendency to form rings.
 - Four Types:
 - Localized
 - Generalized *
 - Perforating
 - Subcutaneous
 - *Almost exclusively in young children*
 - *No skin involvement*



Subcutaneous Granuloma Annulare (SGA)

- Painless, nonmobile, slowly growing soft tissue mass without overlying cutaneous abnormality.
 - Often solitary
 - Most common in the lower extremities
 - **Pretibial, foot, ankle**
 - Scalp, finger (rarely).
- Infancy to young adults (**2-5 years of age**) without definite gender predilection.
- Healthy and no antecedent trauma
 - Often allows clinical differentiation from
 - *Rheumatoid nodules*
 - *Fat necrosis*
 - *Foreign body reaction*
 - *Abscess, infectious granuloma*
- Spontaneously regress, months to years.
- *Not associated with RA, CTD or lymphoproliferative disorders...*



T1



T2-FS

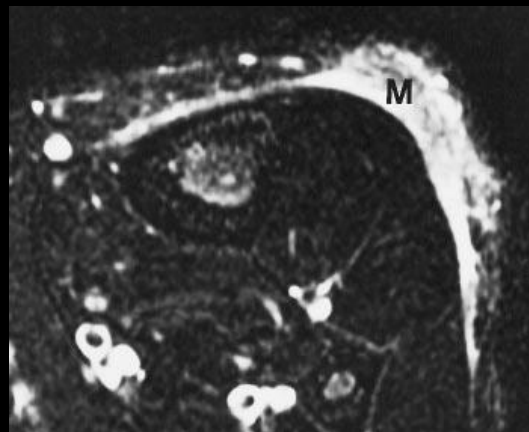
2 1/2-year-old girl with a painless prepatellar mass

SGA Imaging Findings:

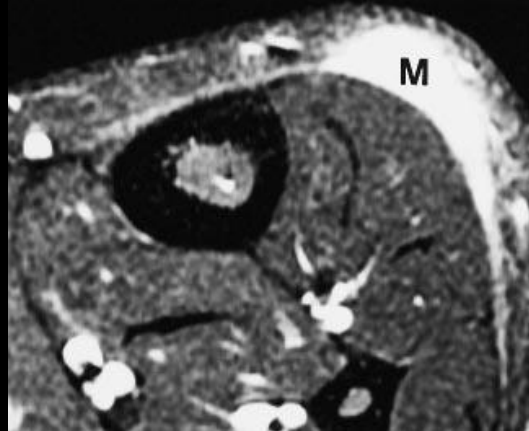
- Ovoid, curvilinear mass with **epicentre in the subcutaneous fat**.
- Nearly always extends to, but not deep to, the superficial fascia.
 - Periosteum, cortex, bone marrow normal
- T1: iso/slight higher than muscle
- T2: variable...
- Gd: homogenous enhancement
 - *May be well-circumscribed, or have enhancing reticulation into adjacent soft tissue.*
- **Pertinent negatives:**
 - Intralesional fat (lipoma, fat necrosis)
 - Cystic spaces (lymphangioma)
 - Vascularity (vascular malformations)
 - No calcified matrix



T1



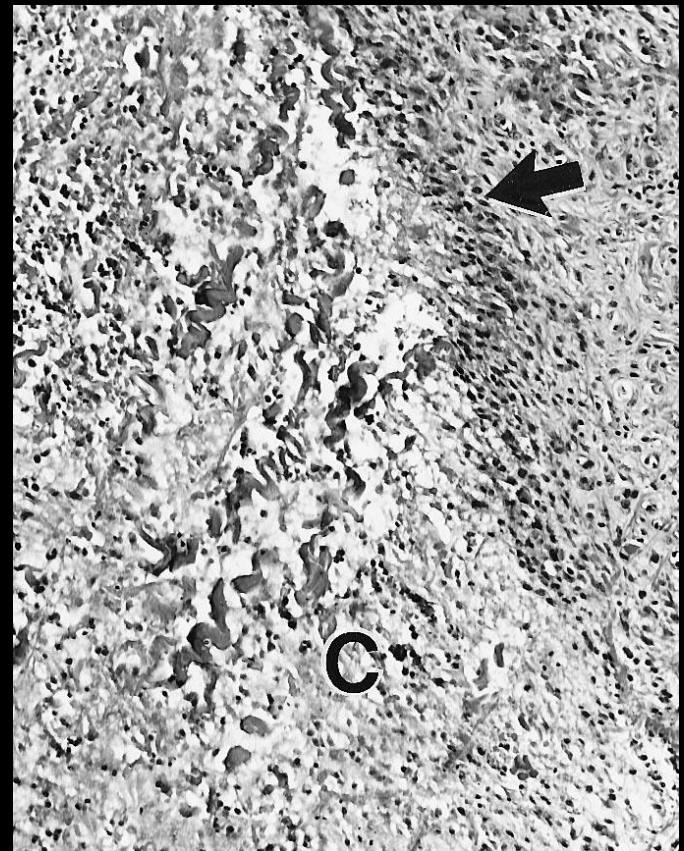
T2-FS



T1-FS
Post-Gd

Why is it important to suggest SGA in the DDx?

- *Imaging findings can be characteristic, “almost certainly SGA”, but ultimately tissue diagnosis or close clinical/imaging f/u to establish resolution is required...*
- *Limited incision biopsy* recommended if Dx not clear on clinical and imaging grounds.
 - FNA not reliable (“palisading architecture”)
 - Excisional biopsy not necessary
 - scar, skin graft, infection risk, tendency to recur
 - *natural history of resolution (months to years).
- *Mucin staining* necessary to differentiate from Rheumatoid nodule
 - Not a routine stain.



A mucinous central zone of amorphous, degenerated, connective tissue (C) is surrounded by a typical palisade of epithelioid and multinucleated histiocytes (arrow)

References:

- Chung S, Frush DP, Prose NS, Shea CR, Laor T, Bisset GS. Subcutaneous granuloma annulare: MR imaging features in six children and literature review. *Radiology*. 1999 Mar;210(3):845-9.
- De Maeseneer M, Vande Walle H, Lenchik L, Machiels F, Desprechins B. Subcutaneous granuloma annulare: MR imaging findings. *Skeletal Radiol*. 1998 Apr;27(4):215-7.
- Kransdorf MJ, Murphey MD, Temple HT. Subcutaneous granuloma annulare: radiologic appearance. *Skeletal Radiol*. 1998 May;27(5):266-70.
- My Aunt's Facebook Account.