



34 year old male with right
shoulder pain and instability

R



R
CMM

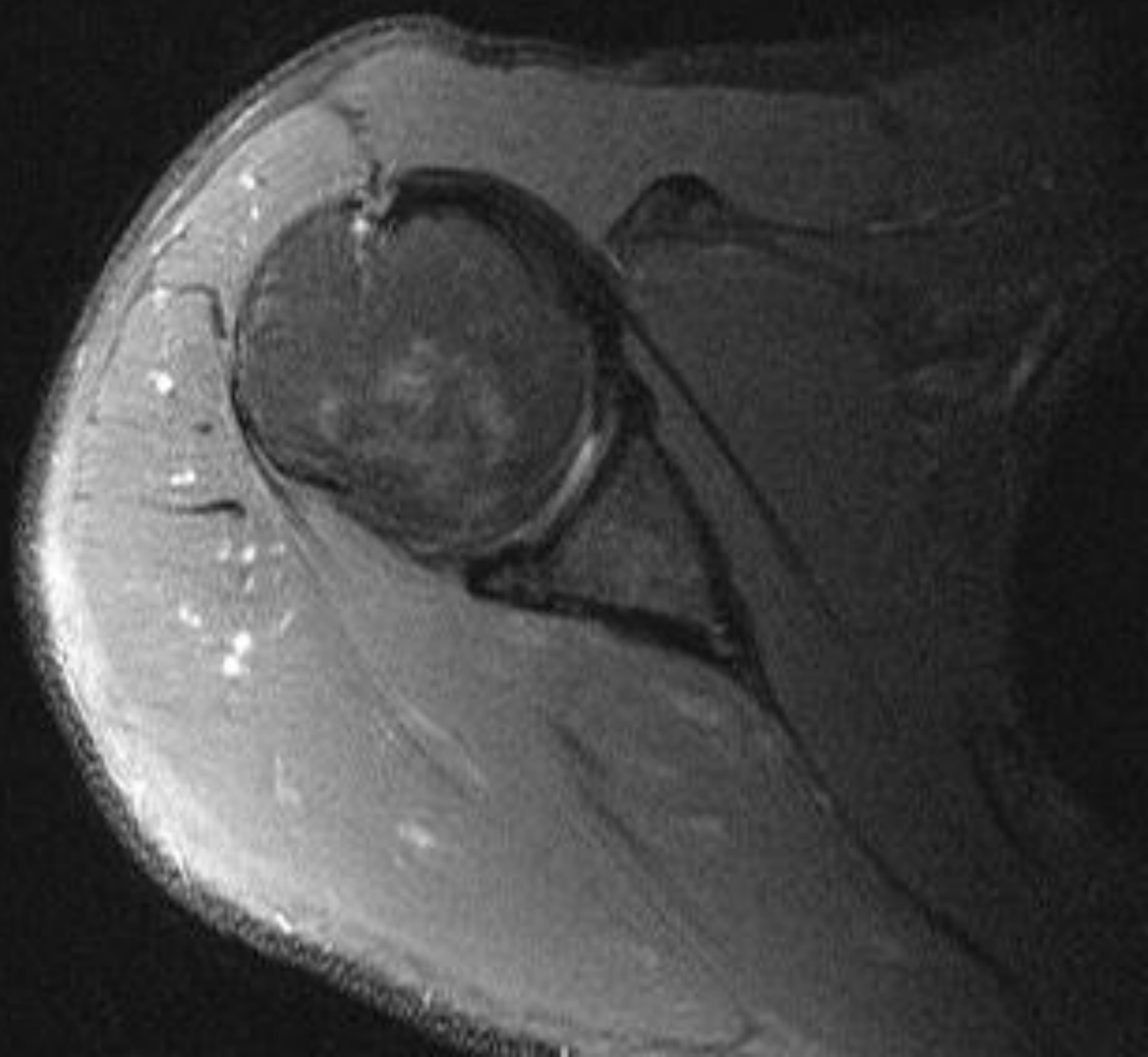


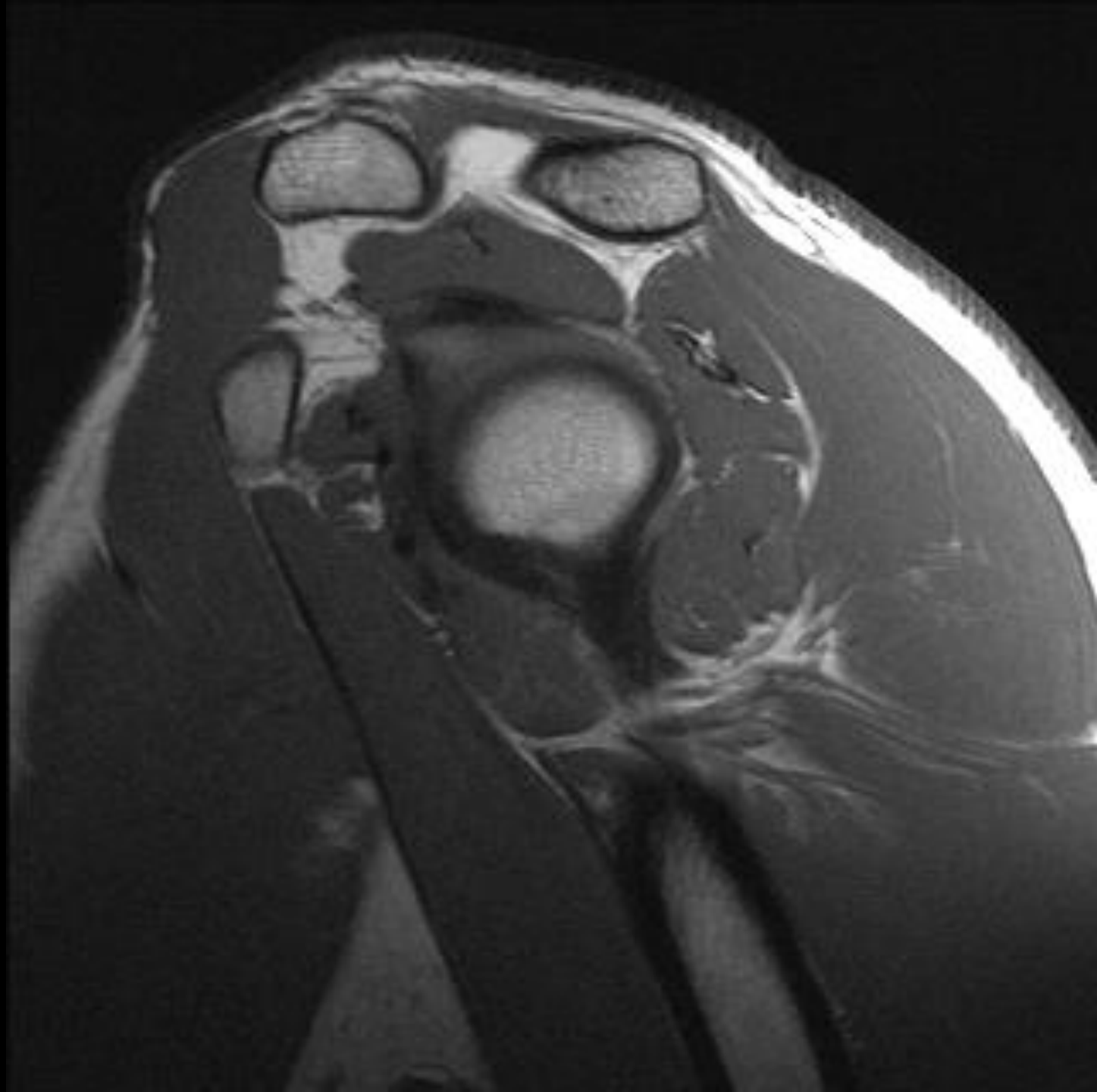
R
CNW

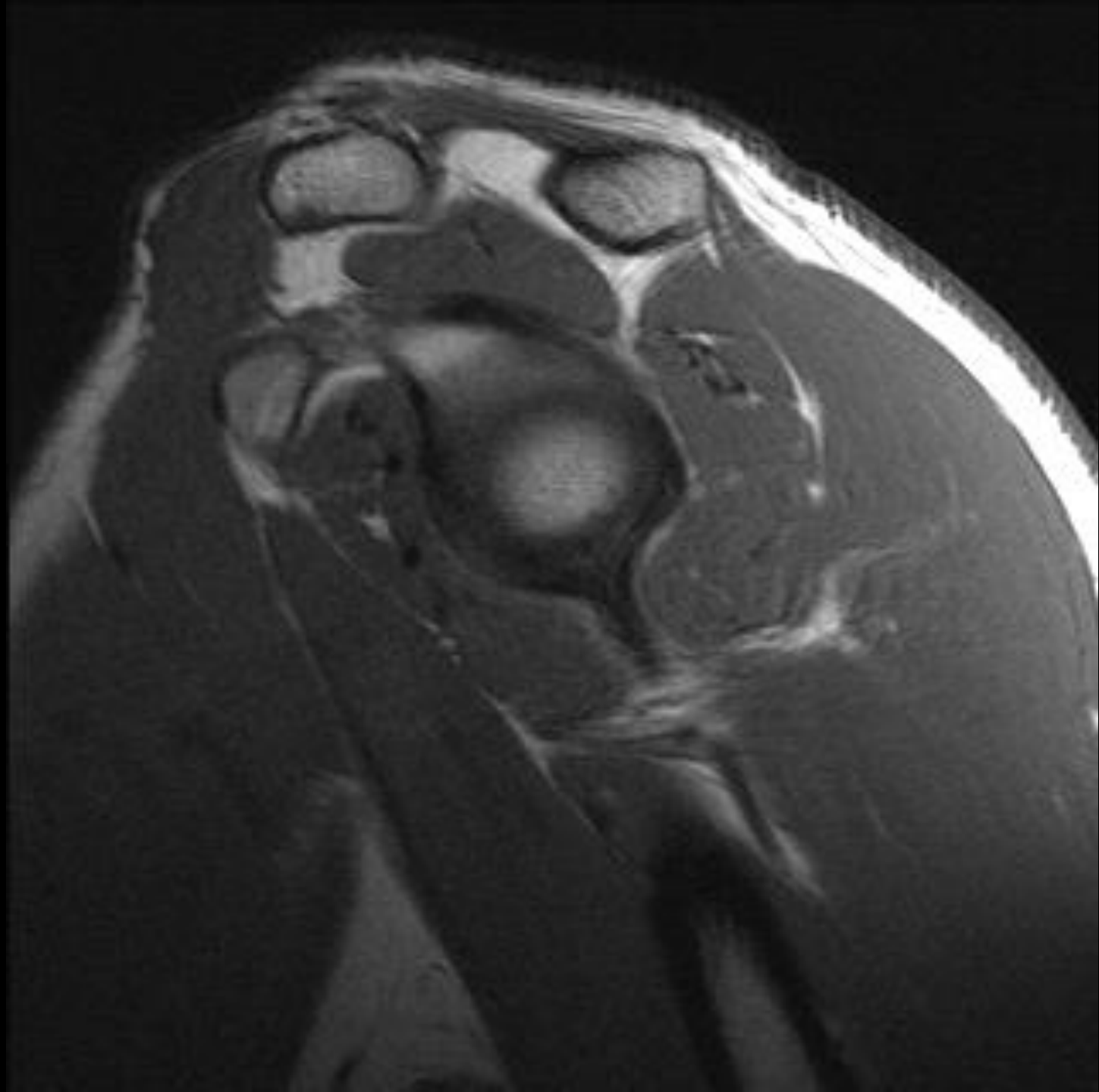


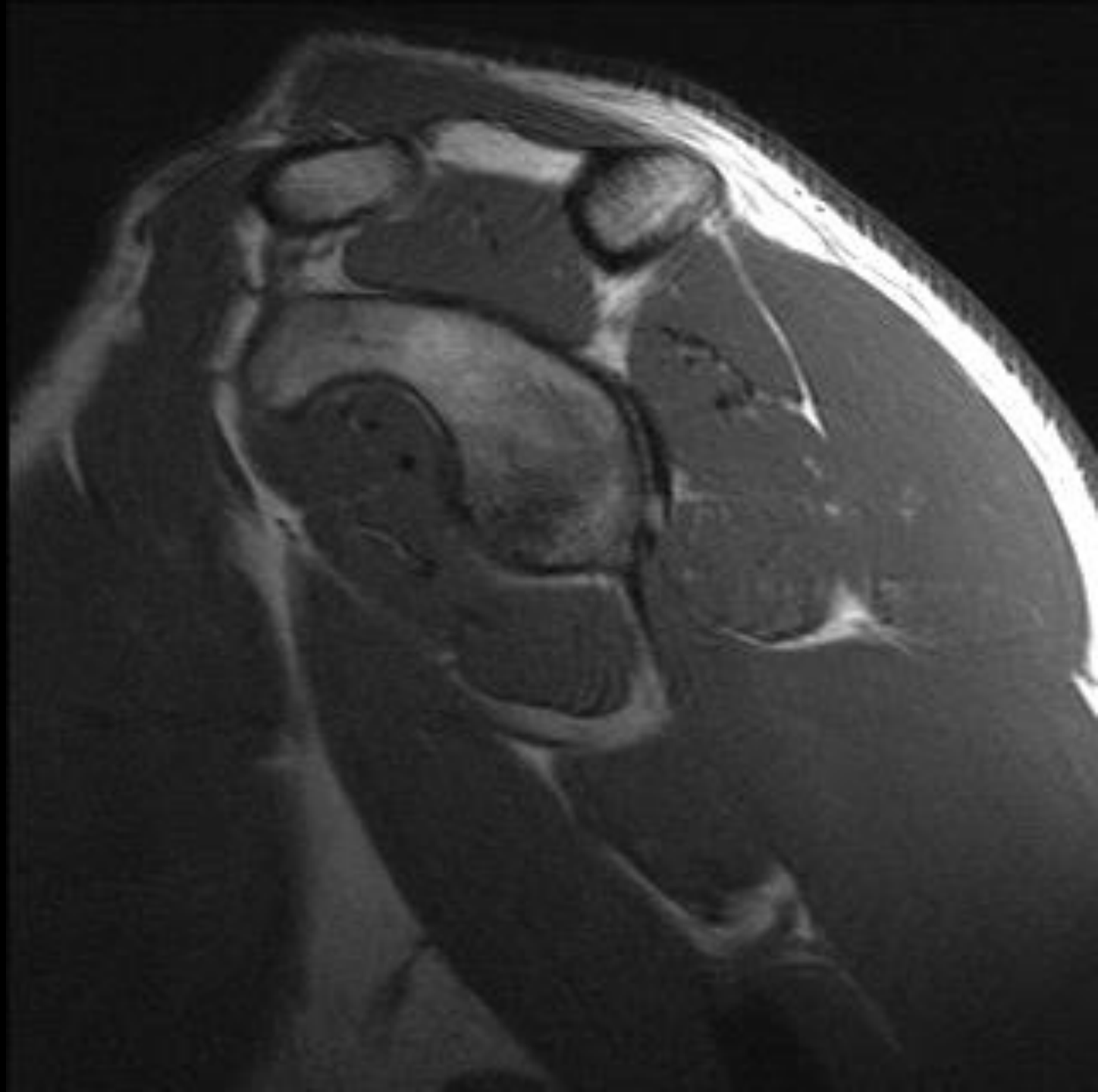
R
C/M

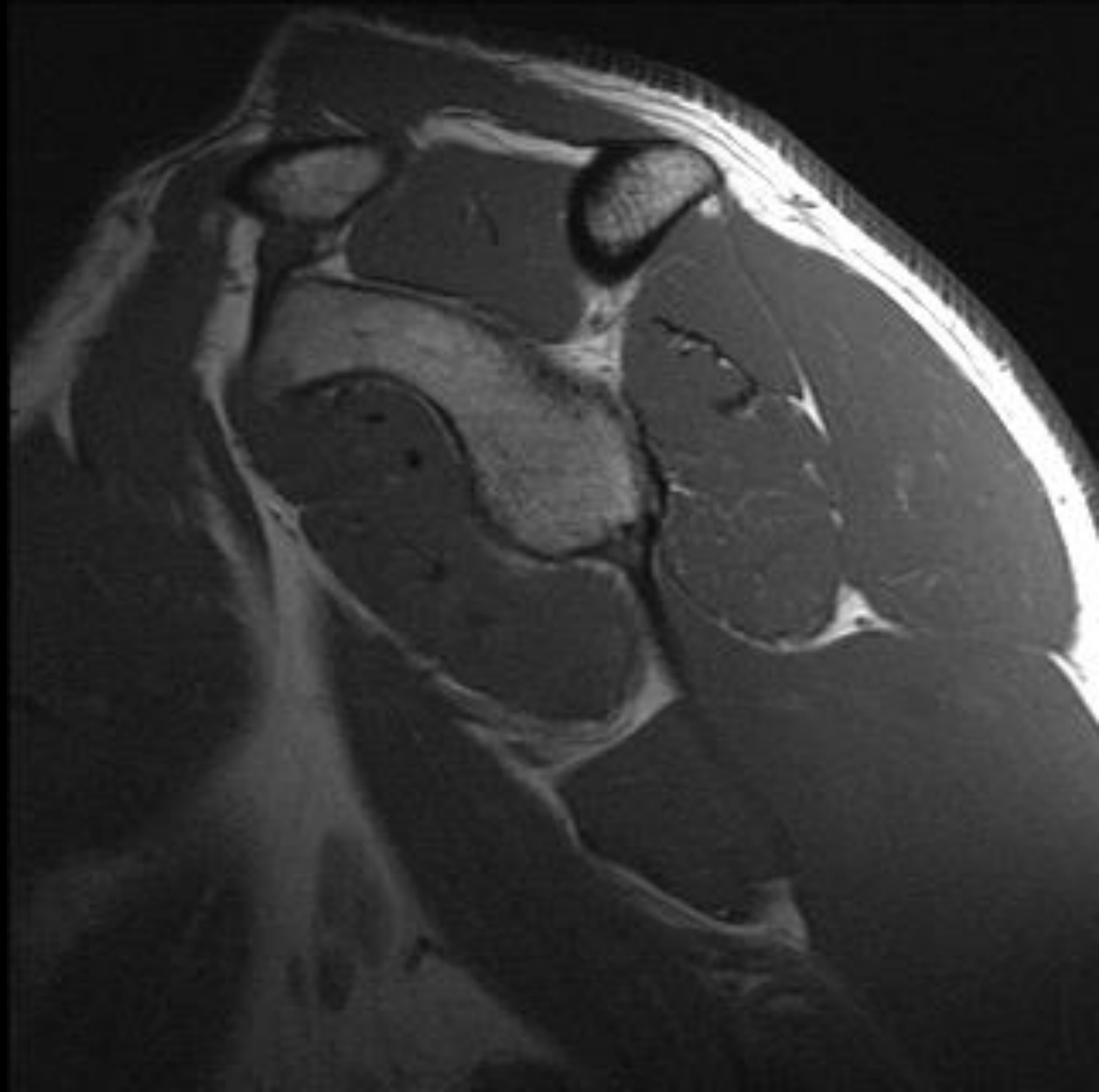












Bennett Lesion

- Deposit of bone or mineralization within the posteroinferior glenoid/shoulder capsule in proximity to the posterior band of the IGHL
- Originally described by Bennett in 1941
 - Described a bone spur at the posteroinferior glenoid as a representative lesion in those with posterior pain
 - Originally thought to be at the triceps tendon attachment

SHOULDER AND ELBOW LESIONS OF THE PROFESSIONAL BASEBALL PITCHER

GEORGE E. BENNETT, M.D.

Associate Professor of Orthopedic Surgery, Johns Hopkins
University School of Medicine

BALTIMORE

Every nation or tribe has a favorite sport in which its people often have more interest than they do in the many more serious vocations of life. The Americans, therefore, being no different from other peoples, have their own particular national sport—the American game of baseball. It has been my good fortune to study our pastime from many angles—as a player, as a fan and as a physician who has endeavored to rehabilitate or advise professional and amateur players.

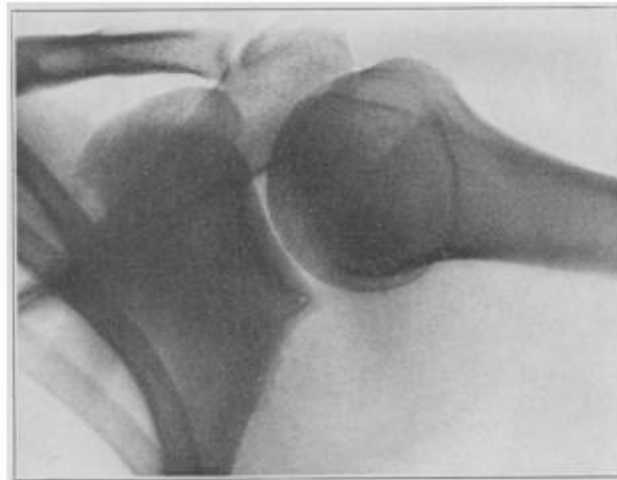


Fig. 1.—Typical pitcher's shoulder. Appearance at the age of 24; this man began pitching professional baseball at 19.

Of all the members of a ball team, the pitcher is the hero and the player on whom most depends. On many occasions I have been asked to designate the type of shoulder lesion that is disabling to the professional baseball pitcher. My answer has always been that the professional pitcher is subject to all the disabilities of the shoulder to which the average person is, namely subacromial and subdeltoid bursitis, irritation of the

The study of the disabilities of the professional baseball player has been made possible by the cooperation given us by Mr. E. G. Barrow and Mr. George Weiss of the New York Yankees and their associated clubs; also Mr. Larry MacPhail of the Brooklyn Dodgers cooperated.

Bennett Lesion

- Seen in overhead-throwing athletes, especially baseball players
 - Barnes (1978):
 - 100 pro baseball players, 24 of which had posterior shoulder complaints, 8 of which had Bennett Lesions by x-ray
 - Nakagawa:
 - 51 baseball players who underwent arthroscopy
 - 24 had a spur
- Increased frequency in shoulders of players who have played longer

Why does it form?

- Still not known
- Presumably because of massive repetitive traction forces, especially during the deceleration phase
 - Deceleration of -500,000 deg/sec/sec
 - Majority of the forces absorbed by posterior muscles, and there is anterior subluxation of the humeral head, so placing strain on the PIGHL

Symptoms

- Usually asymptomatic
 - Wright (2004):
 - 55 asymptomatic pro baseball players, 12 had Bennett lesions (22%)
- But...can be painful
 - Pain is posterior, even debilitating
 - Greatest during the follow-through phase

Why painful?

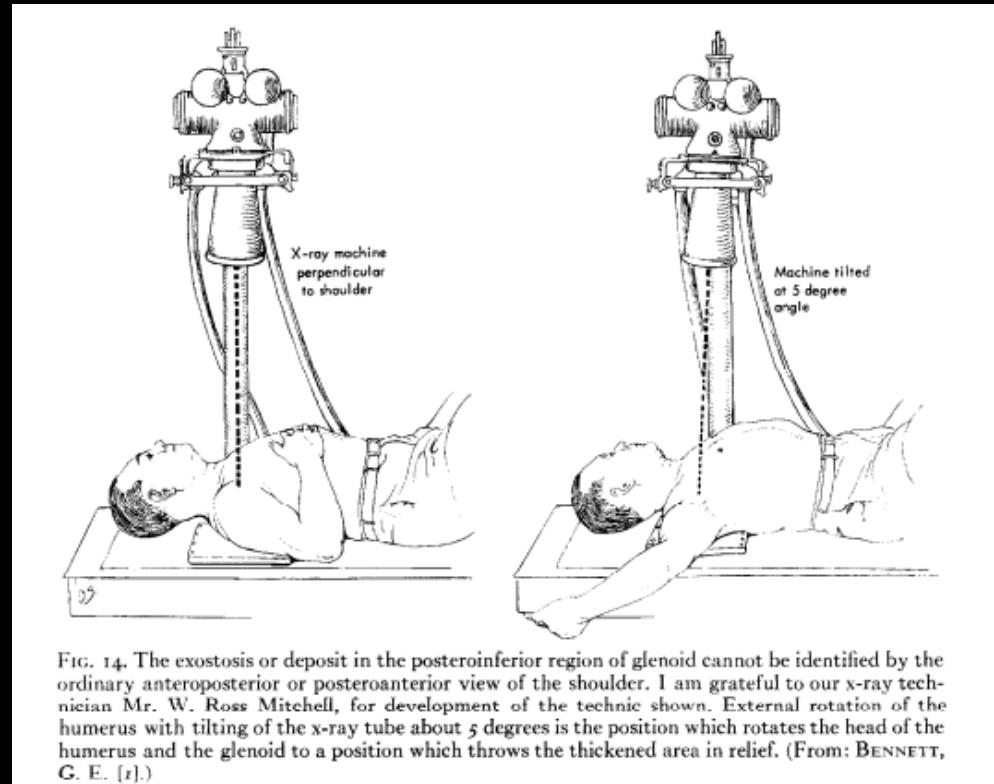
- Strangely, the mechanism of pain is not understood
 - Possibly dynamic:
 - Traction on the posterior capsule?
 - Posterior impingement of the humeral head on the glenoid in the late-cocking phase?
 - Possibly static:
 - Local irritation of the joint capsule by the spur

Why painful?

- Some think it's just an innocent bystander...
 - Often associated with posterior labral injuries and posterior undersurface rotator cuff damage
 - Ferrari: 7 high-level players, all with a Bennet lesion, all with other pathology
 - No Bennett-plasty performed, all got better
 - Not a satisfying answer: some players have nothing but the lesion, and Bennett-plasty has been successful (Nakagawa)

Diagnosis

- Radiography
 - Axillary view most helpful
 - Bennett view (ABER with 5 degrees of cephalad angulation)
 - Stryker notch view



Bennett View



Diagnosis

- CT
 - Useful to evaluate the exostosis, especially an avulsed fragment
- MRI
 - Concomitant pathology

Treatment

- Conservative
- If unsuccessful, try to figure out if the Bennett lesion is the culprit, and if it is, Bennett-plasty
 - 4 criteria (Yoneda, Nakagawa)
 - Detection of bony spur
 - Posterior pain while throwing, especially the follow-through
 - Tenderness at the posteroinferior aspect fo the GH joint
 - Improvement of pain by xylocaine injection to the spur



Figure 2. The local anesthetic test for the Bennett lesion was performed by injecting 2 to 3 ml of 1% lidocaine and a small amount of contrast medium into the Bennett lesion under fluoroscopic control.

Take home points

- Look for the bony spur if evaluating a throwing athlete
 - Don't blow it off as degenerative disease
 - Look extra hard if there's no axillary view!
- But recommend an MRI
- No good explanations for pain generation
- No good hard data for treatment

References

1. Barnes DA, Tullos HS. An analysis of 100 symptomatic baseball players. *Am J Sports Med* 1978;6:62-7.
2. Bennett GE. Shoulder and elbow lesions of the professional baseball pitcher. *JAMA* 1941;117:510-3.
3. De Maeseneer, M. The Bennett Lesion of the Shoulder. *J of Comp Assisted Tomography*. Vol 22(1), January/February 1998, pp 31-34.
4. Ferrari JD, Ferrari DA, Coumas J, Pappas AM. Posterior ossification of the shoulder: the Bennett lesion. *Am J Sports Med* 1994;22:171-6.
5. Yoneda, M, Nakagawa, S, et al. Arthroscopic Removal of Symptomatic Bennett Lesions in the Shoulders of Baseball Players: Arthroscopic Bennett-plasty. *Am J of Sports Med* Vol 30(5), 728-736.