

**CASE REPORT: AVASCULAR NECROSIS OF THE LUNATE
(KIENBOCK'S DISEASE)**

CLINICAL PRESENTATION:

This is a 20-year-old female who presented with chronic wrist pain. An MRI was ordered at AIC-Valencia.

IMAGING FINDINGS: Fig. 1

(LEFT) is a coronal T1 weighted image of the wrist. Fig. 2 (RIGHT) is a coronal STIR image (dark fat). They show very dark signal intensity in the lunate (arrows) indicating replacement of fatty marrow (in this case with chronic sclerosis).

DIAGNOSIS: These findings are typical for avascular necrosis (AVN) of the lunate (**Kienbock's disease**).



DISCUSSION: Kienbock's disease is named after Dr. Robert Kienbock, an Austrian radiologist who called the condition osteomalacia in 1910. Avascular necrosis is basically death and fracture/fragmentation of bone due to interruption in the blood supply. The most likely etiology is trauma. Kienbock's disease is associated with **negative ulnar variance** (ulna shorter than radius).

AVN can occur in multiple bones such as the hips (most common), shoulders, knees, vertebrae, feet, etc. The more common causes include: trauma, steroids, alcoholism, radiation, autoimmune disease such as RA and lupus, vasculitis, sickle cell disease, and idiopathic (25% cases). Symptomatic patients may require surgery for bone graft and revascularization.

Please do not hesitate to call me with any questions.

Ray Hashemi, MD

Ray H. Hashemi, M.D., Ph.D.

Diplomat American Board of Radiology