

**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.

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