Acute polyarthritis in a cardiac transplant recipient

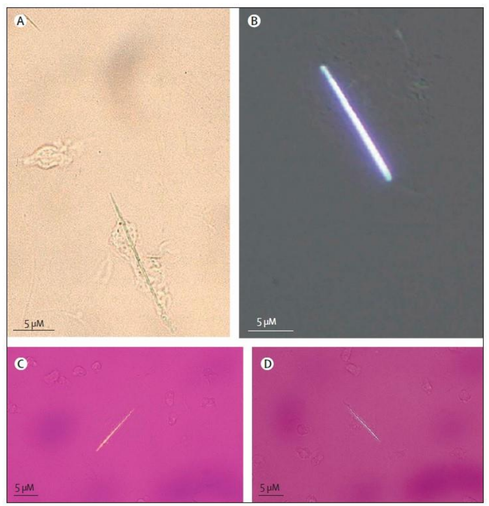
Yu, Ezra, OMS-IV; O'Bryan, Thomas, MD
A.T. Still University; Brooke Army Medical Center

INTRODUCTION

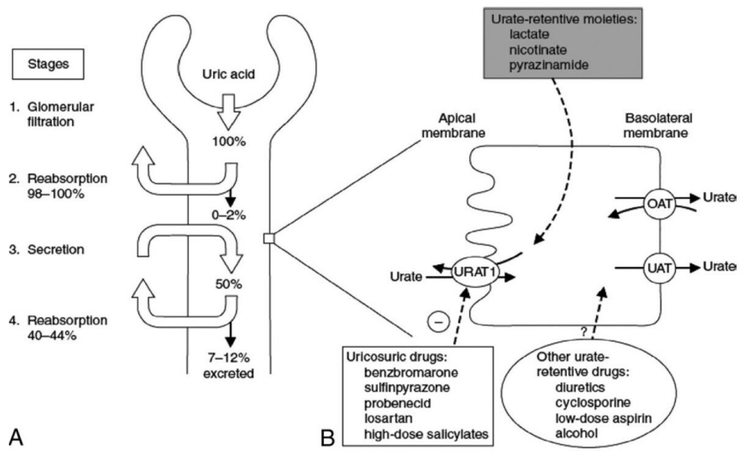
- Gout often occurs in solid organ transplant patients as anti-rejection medications like calcineurin inhibitors worsen hyperuricemia
- Treatment often complicated by drug-drug interactions; various co-morbidities; and differentiating infection versus flare
- Gout flares in transplant patients too can be atypical in nature with polyarticular and/or spinal involvement
- Here we present a case of hyper-acute, polyarticular gout flare in a heart transplant patient after return from Ecuador.

CASE

- 56yo male notable history: cardiac transplant in 1981; on tacrolimus and mycophenolate; chronic kidney disease (CKD) stage III; gout; and Stevens-Johnson (SJS) reaction with xanthine oxidase inhibitors (XOI)
- Admitted for acute, additive, polyarticular joint pain and swelling after return from Ecuador
- Differential considered: infectious arthritis, reactive arthritis, or gouty arthritis
- After excluding infection, treatment with prednisone for presumed acute gout flare



Identification of monosodium urate crystals from synovial fluid (image from literature). (A) Light microscopy (B) Under polarized light (C) Under compensated polarized light, crystals parallel to the axis of slow vibration (D) Under compensated polarized light, crystals perpendicular to axis of slow vibration (Richette & Bardin 2009)



Nephronal handling of uric acid (image from literature). (A) Cycles of filtration and reabsorption of uric acid in the proximal tubule lead to the net excretion of 7% to 12% of the daily filtered load. (B) URAT-1 is an organic anion transporter located in the luminal side of the renal proximal epithelial cell, and known uricosuric agents inhibit it. A second transporter, UAT-1, has been recently described. Abbreviation: OAT, organic anion transporter. (Gaffo & Saag 2008)

CASE

SYNOVIAL FLUID ANALYSIS	
Color	Yellow
Appearance	Cloudy
Crystals	Uric acid-like
Nucleated cells	28,520
INFECTIOUS PANEL	
Chikungunya virus	Negative
Parvovirus B19 IgG	6.0
Parvovirus B19 IgM	Negative
Influenza	Negative
HIV 1/3 AG/AB	Negative
Hep B / C	Non-reactive
Dengue Virus IgG / Ig M	Negative
MISCELLANEOUS	
Uric acid	10.8

DISCUSSION

- Case illustrates nuances to gout treatment and evaluation in solid organ transplant patients
- Because of immunocompromised status, atypical presentations can confound the picture
- Posit that patient's CKD and use of tacrolimus coupled with lack of chronic gout therapy predisposed to gouty flares
- With his various co-morbidities, drug allergies, drug-drug interactions, poses challenges in gout therapy selection
- Treatment gout necessary to reduce joint destruction and potential organ transplant injury; however, chronic steroid use also pose risk
- Successful gout management for this patient necessitates a multidisciplinary approach with consideration of uricase agents due contraindications to XOI and uricosurics

***References available upon request**