Persistent Anterior Uveitis (AU) - Child

- 10 yo boy referred because of AU that persisted despite topical corticosteroid therapy for over 6 weeks
  - Past ocular and medical hx non-contributory.
  - Medications: topical Pred forte OU (q2h, WA)

- On presentation
  - CC: poor vision, OU. No complaint of pain, redness or photophobia.
  - Exam:
    - VA – HM, OD; 20/400 OS
    - Ant. segment, OU – fibrin with AC, with 4+ cell/4+ flare; occlusive pupillary membrane; normal IOP
    - Post. Segment, OU – not visible secondary to pupillary membrane; retina attached on USE
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- **Dx evaluation**
  - Proteinuria; urinary β microglobulin pending
  - Normal blood chemistries and immune makers except for elevated CRP

- **Course**
  - Started on oral Prednisone (0.75 mg/kg) for 2 weeks, with slow taper; continued on topical Pred forte (q2h WA, OU)
    - VA improved to CF at 3’ OD and 20/80 OS
  - Scheduled for lysis of occlusive pupillary membrane OU, with progressing iris bombe OD
Indirect Ophthalmoscopy

TINU – Tubulointerstitial Nephritis and Uveitis Syndrome

- Uveitis in association with acute interstitial nephritis was first described as a distinct entity by Dobrin and associates in 1975.

- Patients with this disorder, which has become known as tubulointerstitial nephritis and uveitis (TINU) syndrome, comprise a subset of those with acute interstitial nephritis, which is thought to be an immune-mediated process that can be drug-related, infection-related or idiopathic.

- TINU is probably an under-diagnosed disorder. It is a diagnosis of exclusion and may account for some cases of “idiopathic uveitis” if the associated interstitial nephritis was not clinically evident or had resolved by the time the intraocular inflammation developed.
The first major review in the ophthalmologic literature cited 133 cases of all ages; common clinical features were bilaterality, anterior uveitis, presentation after renal disease and recurrence or persistence of uveitis.

Median age at onset was 15, emphasizing the importance of pediatric cases in the spectrum of TINU. 20% of patients had posterior or panuveitis.

Approximately one-half (59 of 122) of the cases had no reported risk factors for acute interstitial nephritis. Antecedent drug use was the most commonly identified risk factor.

The urinary beta-2-microglobulin, a marker for interstitial nephritis that was elevated in all patients tested, may be particularly helpful in the diagnosis of TINU, especially when a renal biopsy is not indicated. The beta-2-microglobulin may remain elevated for months after the routine urinalysis and serum creatinine have returned to normal.
Clinical Presentation

Anterior Uveitis – seclusion pupillary membrane

Chorioretinitis – punched-out chorioretinal lesions

Large orange choroidal lesions

New onset of chorioretinal lesions on MTX

Clinical course

- Among 120 cases for which information was available, ocular findings preceded (21%), developed concurrently with (15%), or followed (65%) the onset of interstitial nephritis, with a median onset of ocular symptoms one month after the onset of systemic symptoms.

- Of the 65% of patients who developed ocular symptoms after the onset of systemic symptoms, the median time to onset of ocular symptoms was 3 months after the onset of systemic symptoms.

- In general, however, the course of the renal disease appeared to be independent from that of the ocular disease.
Clinical course and Differential Diagnosis

- Recurrences of uveitis were common, having occurred in 52 of 126 cases (41%).
- Very little data were available on visual outcomes.
- In general, renal disease tended to resolve either spontaneously or with corticosteroid therapy.
- Immunosuppressive agents and/or biologic therapy may be required for refractory ocular disease.

- Sarcoidosis and Sjögren syndrome
  - In terms of organs involved, sarcoidosis rarely causes interstitial nephritis and frequently affects the lungs, whereas lung involvement has not been reported in patients with TINU syndrome.
  - Sjögren syndrome often presents with a lymphocytic interstitial nephritis and occurs predominantly in female patients. Patients with Sjögren syndrome frequently complain of eye pain and redness, but these symptoms are typically secondary to dry eye rather than to uveitis; dry eye was rarely reported in patients with TINU syndrome.

- In 2003, Levinson and associates reported HLA typing in 18 adult patients with TINU from 3 centers.
- The haplotype HLA-DQA1*01/DQB1*05/DRB1*01 was present in 13 (72.2%) of 18 patients.
- Focused typing revealed a relative risk of 167 for uveitis when compared with the control population when HLA-DRB1*01 was present.


- Recently HLA class II typing was performed in a consecutive series of 21 pediatric patients with panuveitis, with or without accompanying renal disease.
- In all 6 TINU pediatric patients with panuveitis and in 14 out of 15 unexplained pediatric panuveitis patients class II HLA typing revealed HLA-DRB1*01-HLA-DQB1*05.
Conclusion - TINU

- Long-term ophthalmological follow-up is required, due to the high frequency of recurrent and chronic uveitis, and long-term studies are needed to characterize the recurrence rate of uveitis and ophthalmologic complications of TINU syndrome more precisely.