How Do Infectious Diseases Clinicians Manage Patients with Suspected Ocular Tuberculosis? Results of an Emerging Infections Network Survey

Henry S. Fraimow, MD, Susan E. Beekmann, RN, MPH, PhD, Philip M. Polgreen, MD, James Sunstrum, MD

Cooper Health System and Cooper Medical School of Rowan University, Camden, NJ; Emerging Infections Network and The University of Iowa College of Medicine, Iowa City, IA; Beaumont Health System, Dearborn, MI

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Introduction

• Ocular tuberculosis (Otb) is considered an uncommon TB presentation and is typically reported in low TB incidence regions.
• Most common manifestations as granulomatous uveitis and can occur with or without concurrent pulmonary/extra-pulmonary TB (1, 2).
• Incidence of Otb is unknown. Ocular findings are reported in 1.4% to 15% of pulmonary/extra-pulmonary TB in some series (3, 4).
• The diagnosis of Otb, especially granulomatous uveitis, has received increasing attention from ophthalmologists, many now include IGRA in evaluation of uveitis of unknown etiology (5).
• Some ID physicians (IPs) report increased referrals for suspected Otb, predominantly TB uveitis.
• Some states, including Michigan and Oregon, report large increases in Otb as a proportion of their extrapulmonary TB cases (6-7).
• We wished to determine how IPs approach suspected ocular tuberculosis/TB uveitis, including the diagnosis, management, and reporting of this syndrome.

Specific Aims of This Study

• To determine if IPs are seeing increased referrals for suspected or confirmed Otb and what the specific indications for referral are.
• To determine how IP approach the diagnosis, management and treatment patients with suspected Otb.
• To understand the impact of TB specific risk factors on IP referral approach patients with suspected Otb referred for positive IGRA results.
• To understand how IPs interact with public health departments when treating cases of presumed but non-microbiologically confirmed Otb.

Methods

The Infectious Diseases Society of America Emerging Infections Network (IDSA EIN) is a provider-based emerging infectious sentinel network of primarily North American IDPs.

The IDSA EIN regularly disseminates topic based surveys to its members.

EIN staff and two US IPs with extensive TB experience collaborated to create a 5-question multiple choice survey and have performed similar surveys on how ophthalmologists approach this condition, and have invited multidisciplinary observational studies to help answer some of the same questions we that we have posed to IDPs (8-9).

We improved collaboration with referring ophthalmologists including better familiarity with emerging uveitis literature and treatment response of Otb, as well as better understanding of the diagnostic testing are necessary to improve management of this emerging syndrome.

Not all patients treated for suspected Otb are reported to public health agencies, likely contributing to the lack of recognition of this emerging problem.

Results

Respondent Characteristics

• 745 of 1379 surveyed (55%) responded
• Geographical Distribution of responders (absolute #)
• Years of Practice, Employment and Hospital Type are shown Respondents more likely to
• Have ≥ 25 years of ID Experience (p=0.002)
• Work for the Federal Government (p = 0.03)
• Work in a VA-Federal hospital (p = 0.04)

Management Issues

• Respondents much more likely to treat as Otb without additional sampling if TB endemic area or other TB risk factors (70% vs 29%, p ≤ 0.01)
• More likely to treat as Otb if ophthalmologist had high clinical suspicion (91% vs 60%, p ≤ 0.01)
• More likely to treat as Otb if CXR abnormal (78% vs 53%, p ≤ 0.01)

Diagnoses

• Most Common Reasons for Referral (Ranked as #1,2,3)

Otb Referral Patterns

• 1013 (81%) had seen no referrals for Otb in the past 3 years
• 2101 (13%) saw 1 to 3, 28 (4%) saw 4 to 6, and 12 (2%) saw ≥ 6 referrals for Otb in the past 3 years
• 35% who saw Otb referrals reported increasing referrals for ‘possible’ Otb based on positive TST or IGRA but only 14% saw increased referrals for ‘probable’ confirmed Otb.
• Few reported decreased referrals over the time
• The most common reason for referral was uveitis with a positive IGRA, though many referrals were also for idiopathic uveitis without any tuberculosis testing. Few referrals were for eye findings in patients with known or suspected extracellular TB disease or TB related symptoms.

Management of Granulomatous uveitis with Positive IGRA With or Without TB risk factors

• Treat for Otb
• Respondent eye sampling + PCR + Culture, Treat TB Disease only if (+)
• Respondent eye sampling + PCR + culture but treat TB Disease regardless of test results
• Request eye sampling for PCR + culture but treat TB Disease only if (+)
• Other

Diagnostics

• 94% would initiate treatment with RIFPE (94%) or RIFP (10%) when TB positive
• Many would stop therapy after 2 or 4 months if no response
• Many would consider improvement varied among respondents; 44% were uncertain whether improvement occurred

Treatment and Response to Therapy

• How Often Do You See Clinical Improvement During Treatment? A, B, C, D

Public Health Notification and DOT

• How Often Do you Report To Health Department? A, B, C, D

Discussion

• Many IPs do not see referrals for Otb but of the ~20% of who ~13% reported ophthalmologists referred for possible Otb, many for idiopathic uveitis and positive IGRA.
• There is considerable variation in management of possible Otb.
• Decision by IP to treat patients with uveitis and (+) IGRA for Otb is heavily influenced by TB risk factors. Significantly more IDPs would treat for Otb if foreign or other TB risks.
• Without TB risks, IDPs would more likely treat only if positive eye culture or PCR, but also think these specimens are rarely obtained. Treatment decisions are also influenced by ophthalmologists’ impressions and having CXR abnormalities.
• There is heterogeneity among IDPs in treatment duration and expectation of response to therapy. Most give RIFPE or RIFP for 6 months regardless of response, but 29% would stop after 2 clinical response. However, many are also unsure as to whether to expect a response during treatment.
• The open comments noted difficulty in asssessing responses in patients concurrently receiving topical or systemic steroids.
• Uveitis specialists have a growing interest in TB uveitis management and have performed similar surveys on how ophthalmologists approach this condition, and have invited multidisciplinary observational studies to help answer some of the same questions we that we have posed to IDPs (8-9,10).
• Improved collaboration with referring ophthalmologists including better familiarity with emerging uveitis literature on treatment response of Otb, as well as better understanding of the diagnostic testing are necessary to improve management of this emerging syndrome.

References

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