PERTINENT MEDICAL & SOCIAL HISTORY

TB Reactivation Risk Factors: [TST/IGRA Online TB Risk Calculator: http://www.tstin3d.com/en/calc.html ]

-HIV+/risk factors for HIV

-patient recently arrived from high-prevalence country or known history of TB

close contact

-resident/employee of NH/homeless shelters/jail

-healthcare worker

-silicosis, diabetes, or renal failure on dialysis

-head and neck cancer

- > 1ppd tobacco

-conversion of IGRA or PPD conversion from - to + within last 2 years

-fibronodular/granuloma/pleural thickening on CXR

-prolonged steroid rx (e.g. more than/= 15 mg prednisone/d

Travel & Endemic Fungi Exposure Risk Factors, Travel & Residence history:

Histoplasmosis - Ohio River Valley/SE U.S., Caribbean, Cent/So America; exposure to rich soil, bird or bat droppings.

Coccidiomycosis - Desert, SW U.S., CA; CNS cocci requires lifelong antifungal-risk of meningitis

Blastomycosis – N/Cent/So America, Ohio & Mississippi River valleys, Great Lakes; wooded areas

Cryptococcus neoformans or gattii- tropics/sub-tropics, British Columbia, Pacific NW U.S.

Aspergillus - dust, construction, unfiltered cigarettes or water pipes (whether tobacco, marijuana, or herbal)

Melioidosis - SE Asia (military service)

Leptospirosis within 2 years - tropics/subtropics, adventure races/fresh water sports/mud runs

Ebola virus, past known infection - WAfrica; these persist in immunologically privileged areas (CNS/eye/testis).

ASSESSMENT/PLAN/RECOMMENDATIONS:

// Immunosuppression/TNF alpha inhibition

-The only ID-related contraindication to starting a TNFAI is active infection.

-Relative risk of serious infection 1 - 2.2 fold higher on TNFAI (general risk without TNFAI ~1-3%). Risk is higher for high-dose or prolonged corticosteroids. Risk of respiratory, urinary tract, & skin/soft tissue infections, of reactivating TB (usually EXTRA-pulmonary), or new Opportunistic Infections is highest early after starting TNFAIs & if + risk factors below; risk drops steadily and significantly by 2 years on TNFAI.

- Both TB & endemic fungal infections may occur despite prophylaxis during TBAI. If veteran develops unexplained fever, malaise, cough, fatigue, order CT chest & consult ID.

// Risk Factors for Tuberculosis

-highest with cell-mediated immune impairment

-recommend Quantiferon & PA/lat CXR

-if + Quantiferon, start INH/B6 prophy x 12 months (OK to start TNFAI soon after starting)

// Seronegative arthropathy/psoriatic arthritis with Risk Factors for HIV

- check HIV Ag/Ab assay; if +, ID will continue to follow

- if CD4 below 200, or on corticosteroid equivalent of 20mg prednisone daily for over 4 weeks, start PCP prophylaxis with TMP-SMX DS 1 PO qdaily.

- monitor closely for opportunistic infections if CD4 below 200 cells/mm 3

// Corticosteroids - If on corticosteroid equivalent of 20mg prednisone daily for over 4 weeks, start PCP prophylaxis with TMP-SMX DS 1 PO qdaily.

// Endemic Fungi Exposure, Risk Factors for Reactivation

-monitor for FUO, cough, SOB, flu-like symptoms, headaches, night sweats, weight loss

-Histoplasmosis - monitor for pulmonary symptoms, disseminated infection; urine HistoAg for diagnosis; post treatment, f/u urine Ag Q4months <https://www.cdc.gov/fungal/diseases/histoplasmosis/health-professionals.html>

-Cryptococcus - pneumonia-like illness, weight loss; <https://www.cdc.gov/fungal/diseases/cryptococcosis-neoformans/health-professionals.html>

-Coccidiomycosis – Cocci IgM & IgG; monitor for pneumonitis/meningitis; <https://www.cdc.gov/fungal/diseases/coccidioidomycosis/health-professionals.html>

-Blastomycosis – monitor for pneumonia-like illness, weight loss; <https://www.cdc.gov/fungal/diseases/blastomycosis/symptoms.html>

-Aspergillus – monitor for pneumonia-like illness, cavitary lung infections

-Melioidosis – monitor for disseminated organ abscesses, sepsis

-Leptospirosis within 2 years – monitor for flu-like illness with diffuse rash, conjunctival suffusion, sepsis

-Ebola virus, past known infection - these persist in immunologically privileged areas (CNS/eye/testis); risk of reactivation may outweigh benefit of TNFAI; caution urged.

// Hepatitis B Screening - Check HBsAg, HBsAb, HBcAb.

a. HBcAb+/HBAg+or-/HBsAb+or- serology is consistent with naturally acquired HBV infection, which may reactivate in case of significant immunosuppression. +HBsAb may not be protective against reactivation.

b. If HBcAb+ and plan is for moderate to high intensity immunosuppression with TNF inhibitor/cytokine inhibitor/tyrosine kinase inhibitor or greater than 10mg/day prednisone for greater than 4 weeks, recommend prophylaxis with entecavir 0.5mg PO qdaily from 1 month prior to start of immunosuppression to 6 months after cessation.

// Vaccinations

a. PCV13 followed by PPSV23 in 8 weeks; repeat PPSV23 in 5Y if still on TNFAI (See ACIP 2016 Adult Immunizations Guideline for details)

b. Flu annually

c. Tdap once if never received & start Q10Y Td from there

d. Shingrix vaccine at age 50+; give 2 weeks before; if given after shingles episode, anytime after rash has cleared but probably better antibody boost if given 12 months after.

e. If travel expected, check CDC Travel <https://wwwnc.cdc.gov/travel> for recommendations.

REFS:

AGA Institute Guideline on the Prevention and Treatment of Hepatitis B Virus Reactivation During Immunosuppressive Drug Therapy. Jan 2015;148(1):215-19.

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