



Preventive care in inflammatory bowel disease

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The purpose of this article was to review the preventive care for the inflammatory bowel disease (IBD) patients. Health maintenance issues include assessment for vaccinations, screening for cervical cancer, melanoma and non-melanoma skin cancer (MNSC and NMSC), and osteoporosis. The diagnosis of depression and anxiety and smoking cessation in IBD patients was also reviewed.

VACCINATIONS

Patients with IBD are often treated with long-term immunosuppressive therapies and may thus be at increased risk for infections, many of which are preventable with vaccinations (1). All adult patients with IBD, regardless of immunosuppression status, should receive non-live vaccines, including trivalent inactivated influenza vaccine, pneumococcal vaccination (PCV13 and PPSV23), hepatitis A virus (HAV), hepatitis B virus (HBV), hemophilus influenza B, human papilloma virus (HPV), tetanus, and pertussis (2,3). However, when patients are receiving immunosuppressive therapies with combined thiopurines and anti-tumor necrosis factor (TNF) agents, serologic responses to vaccines are impaired (4-7).

One concern raised by clinicians and patients is that vaccination may exacerbate IBD disease activity (8,3). Several studies of patients with rheumatologic disorders failed to demonstrate that vaccination was associated with an increase in disease activity (4).

INFLUENZA VACCINATION

Recommendation

1a. All adult patients with IBD should undergo annual vaccination against influenza. *Conditional recommendation, with very low level of evidence.*

1b. Patients on immunosuppressive therapies and their household contacts should receive the non-live trivalent inactivated influenza vaccine, but not the live inhaled influenza vaccine. *Conditional recommendation, with very low level of evidence.*

Patients with IBD are at increased risk for acquiring influenza infection relative to age-matched patients without IBD. Furthermore, some patients with IBD who acquire influenza infection are more likely to experience hospitalization and co-infection with pneumonia (9).

PNEUMOCOCCAL VACCINATION

Recommendation

2. Adult patients with IBD receiving immunosuppressive therapy should receive pneumococcal vaccination with both the PCV13 and PPSV23, in accordance with the national guidelines. *Conditional recommendation, with very low level of evidence.*

Patients with IBD are at increased risk for pneumonia relative to age-matched patients without IBD (hazard ratio [HR]: 1.54, 95% confidence interval [CI]: 1.49-1.60); this risk is apparent among both Crohn's disease (CD) and ulcerative colitis (UC) (10). Pneumococcal vaccination can be safely administered simultaneously with influenza vaccination, thus providing an opportunity to educate and target patients appropriate for pneumococcal vaccination during the flu season (11).

HERPES ZOSTER VACCINATION

Recommendation

3. Adults with IBD aged >50 years should consider vaccination against herpes-zoster, including certain subgroups of immunosuppressed patients. *Strong recommendation, with low level of evidence.*

Patients with IBD are at increased risk of developing herpes-zoster infections (12,13). The risk of herpes-zoster is higher in patients with IBD regardless of the disease duration.

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It is more controversial whether patients on anti-TNF agents can receive the zoster vaccine. Data, although retrospective, suggest that vaccinating IBD patients on anti-TNF therapy can be considered on a case-by-case basis after a discussion of the risks and benefits with the patient.

VARICELLA VACCINATION

Recommendation

4. Adults with IBD should be assessed for prior exposure to varicella and vaccinated if naive prior to initiation of immunosuppressive therapy when possible. *Conditional recommendation, with very low level of evidence.*

Data suggest that IBD patients should be tested for varicella exposure and be vaccinated if non-immune. Varicella vaccine is a live attenuated vaccine and is contraindicated 1-3 months before start of biologics and if on one of these agents. The Infectious Diseases Society of America (IDSA) clinical practice guideline states that the administration of varicella vaccine can be considered for non-varicella-immune patients who are receiving long-term, low-dose immunosuppression (14).

YELLOW FEVER VACCINATION

Recommendation

5. Patients with IBD who are immunosuppressed and traveling to endemic areas for yellow fever should consult with a travel medicine or infectious disease specialist before travel. *Conditional recommendation, with very low level of evidence.*

The yellow fever vaccine is a live attenuated vaccine; no alternative inactivated form of the vaccine is available. These patients should not undergo yellow fever vaccination, as there is a risk of developing a serious adverse event, specifically yellow fever vaccine-associated viscerotropic disease, which is a systemic disease associated with multi-organ failure and death.

If the patient requests to stop their immunosuppressive therapy to receive the vaccine, experts feel that the minimal time before the safe administration of the vaccine can be up to 3 months depending on the type of immunosuppressive regimen. The immunosuppressive treatment should not be restarted earlier than 4 weeks after vaccination (15).

MENINGOCOCCAL VACCINATION

Recommendation

6. Adolescents with IBD should receive meningococcal vaccination in accordance with routine vaccination recommendations. *Conditional recommendation, with very low level of evidence.*

Meningococcal vaccines are inactivated and can be administered to all IBD patients regardless of immunosuppression (16).

LIVE VACCINATIONS IN HOUSEHOLD MEMBERS OF IMMUNOSUPPRESSED IBD PATIENTS

Recommendation

7. Household members of immunosuppressed patients can receive live vaccines with certain precautions. *Conditional recommendation, with very low level of evidence.*

Household members of immunocompromised patients can receive all inactive vaccines.

Healthy immunocompetent individuals who live in a household with immunocompromised patients should receive the following live vaccines based on the Center for Diseases Control and Prevention-Advisory Committee on Immunization Practices (CDC-ACIP) annual schedule: combined measles, mumps, and rubella vaccines (strong, moderate); rotavirus vaccine in infants aged 2-7 months (strong, low); varicella vaccine (strong, moderate); and zoster vaccine (strong, moderate). Highly immunocompromised patients should avoid handling diapers of infants who have been vaccinated with rotavirus vaccine for 4 weeks after vaccination due to the concern for virus transmission (strong, very low). Immunocompromised patients should avoid contact with persons who develop skin lesions after the receipt of varicella or zoster vaccine until the lesions clear (strong, low) (14,17,18).

VACCINATE PRIOR TO IMMUNOSUPPRESSION

Recommendation

8. Adults with IBD should receive age-appropriate vaccinations before initiation of immune suppression when possible. *Conditional recommendation, with very low level of evidence.*

1. Vaccines should be administered before planned immunosuppression if feasible (strong, moderate).
2. Live vaccines should be administered ≥ 4 weeks before immunosuppression (strong, low) and should be avoided within 2 weeks of initiation of immunosuppression (strong, low).
3. Inactivated vaccines should be administered ≥ 2 weeks before immunosuppression (strong, moderate) (14,17).

TETANUS-DIPHTHERIA-ACELLULAR PERTUSSIS, HAV, HBV, AND HPV VACCINATIONS

Recommendation

9. Vaccination against Tdap, HAV, HBV, and HPV should be administered as per the ACIP guidelines. *Conditional recommendation, with very low level of evidence.*

All adult patients with IBD, regardless of immunosuppression status, should receive non-live vaccines in accordance with the national guidelines published by CDC, ACIP, and IDSA, including HAV, HBV, hemophilus influenza B, HPV, tetanus, and pertussis (2,11,14,17,19,20).

SCREENING FOR CERVICAL CANCER**Recommendation**

10. Women with IBD on immunosuppressive therapy should undergo annual cervical cancer screening. *Conditional recommendation, very low level of evidence.*

The European Crohn's and Colitis Organization states "given the excess risk demonstrated in various other contexts of immunosuppression, it is currently recommended that all women with IBD, particularly those receiving immunosuppressants, strictly adhere to a screening program of cervical surveillance and undergo vaccination against HPV, when appropriate" (21).

SCREENING FOR DEPRESSION AND ANXIETY**Recommendation**

11. Screening for depression and anxiety is recommended in patients with IBD. *Conditional recommendation, low level evidence.*

The etiology of IBD and disease activity following periods of remission is complex and likely involves an interaction between multiple factors. Psychological stress has been reported by both caregivers and patients to exacerbate disease. Addressing or at least identifying these issues in patients can be important for disease management and optimizing the chance for good outcomes (22).

SCREENING FOR MMSC and NMSC**Recommendation**

12a. Patients with IBD (both UC and CD) should undergo screening for melanoma independent of the use of biologic therapy. *Strong recommendation with low level of evidence.*

12b. IBD patients on immunomodulators (6-mercaptopurine or azathioprine) should undergo screening for NMSC while using these agents, particularly over the age of 50 years. *Strong recommendation with low level of evidence.*

It is suggested that all individuals who are initiating immunosuppression therapy for the treatment of IBD should use sunscreen that is protective against ultraviolet (UV) A and UVB light as well use sun-protective clothing. It is suggested that all IBD patients should follow a program of sun protection and dermatological surveillance, which considers other non-IBD-related risk factors for skin cancer development (23,24).

SCREENING FOR OSTEOPOROSIS**Recommendation**

13. Patients with conventional risk factors for abnormal bone mineral density (BMD) with UC and CD should undergo screening for osteoporosis with BMD testing at the time of diagnosis and periodically after diagnosis. *Conditional recommendation with very low level evidence*

Bone mineral density measurement (with a Dual-energy X-ray absorptiometry (DEXA) scan) is recommended in all patients starting oral corticosteroid therapy specifically in those who have used oral corticosteroid therapy for longer than 3 consecutive months at a dose ≥ 7.5 mg/day of prednisone-equivalent in the absence of baseline BMD measurement (25).

SMOKING CESSATION IN PATIENTS WITH CD**Recommendation**

14. Patients with CD who smoke should be counseled to quit. *Strong recommendation with low level evidence.*

Although it is very important to take into account the preventive care for IBD patients, adherence to ≥ 1 additional component of preventive care was observed in 25% of patients reported by Jackson et al (26). Recently, they reported that only 9% of patients on thiopurines underwent annual skin checks; 21% with IBD underwent a bone scan; 16% were reminded to have their influenza vaccine. Assessment of psychological well-being was undertaken in only 6% of patients. We as healthcare providers should increase the adherence to disease management guidelines to improve the quality of IBD outpatient management.

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