Health Maintenance in IBD: All We Need is Vitamins?

September 11, 2010
Millie D. Long MD, MPH

Inflammatory Bowel Disease Center
University of North Carolina-Chapel Hill
Outline: Health Maintenance in IBD

- Potential for immune dysfunction in IBD
- Immunizations
- Osteoporosis
- Cervical cancer and testing (Pap smears)*
- Skin cancer
- Vitamins
- Summary health maintenance recommendations

*For women only
Immune Dysfunction
Immune Dysfunction

- Patients with inflammatory bowel disease (IBD) might be at increased risk for infections or malignancies
  - Related to the immunosuppressive medications used to treat the disease
  - Related to the underlying altered regulation of the immune system inherent to the disease
Definition of Immunosuppression

- Steroids
  - Prednisone
- 6mp or Azathioprine
- Methotrexate
- Biologic medications
  - Cimzia, Humira, Remicade or Tysabri

Immunizations
Importance of Immunizations

• Can prevent serious adverse events and infections
• No risk of contracting the illness w/ attenuated or killed vaccines
• Important in anyone with a chronic illness, particularly immune mediated disorders
  – Diabetes
  – Asthma
  – Rheumatoid arthritis
  – Inflammatory bowel disease
Immunization Guidelines in IBD*

- Standard recommended immunization scheduled for adults should be adhered to
- At diagnosis, all adults should have review of immunization history, with catch up vaccination given as needed
- Live vaccines should be avoided in patients on immunosuppression

*Prior to several newly licensed vaccines
Immunization Guidelines in IBD

- Patients with chronic immunologic illnesses seem to respond well to vaccines
- Patients do not experience worsened disease activity as a result of immunization
- Killed or inactivated vaccines do **NOT** present a risk of infection to patients on immunomodulators or biologics

Live Vaccines:
Contraindicated with Immunosuppression

- Anthrax vaccine
- Intranasal influenza
- Measles-Mumps-Rubella (MMR)
- Polio live oral vaccine (OPV)
- Smallpox vaccine
- Tuberculosis BCG vaccine
- Typhoid live oral vaccine
- Varicella
- Zoster
- Yellow fever

Melmed GY. Inflamm Bowel Dis. 15 (9), 2009
Summary: Immunization in IBD

<table>
<thead>
<tr>
<th>Recommend</th>
<th>Special Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Immunization review to determine “catch-up” vaccinations needed</td>
<td>• HPV vaccine</td>
</tr>
<tr>
<td>• Seasonal influenza vaccine*</td>
<td>– For women up to age 26</td>
</tr>
<tr>
<td>• Swine flu vaccine*</td>
<td>without prior vaccination</td>
</tr>
<tr>
<td>• Pneumococcal vaccine</td>
<td>• Varicella vaccine</td>
</tr>
<tr>
<td>• Standard age appropriate adult immunizations</td>
<td>– Prior to immunosuppression</td>
</tr>
<tr>
<td></td>
<td>• Zoster vaccine</td>
</tr>
<tr>
<td></td>
<td>– &gt;60 years old or</td>
</tr>
<tr>
<td></td>
<td>– Prior to immunosuppression</td>
</tr>
<tr>
<td></td>
<td>• Hepatitis A and B vaccine</td>
</tr>
<tr>
<td></td>
<td>– If not already given</td>
</tr>
</tbody>
</table>

*will be combined into 1 shot in 2010-2011, need the shot rather than nasal spray if on immunosuppression
Osteoporosis
Osteoporosis

- A disease in which bones become fragile and more likely to break
- Fractures of the hip and spine are associated with significant morbidity including hospitalizations, major surgery and even death
- Risk Factors in general population
  - Female, thin frame, postmenopausal
  - Family history
  - Smoking and alcohol use
  - Steroid use (prednisone)
Osteoporosis in IBD

• Prevalence of osteoporosis in IBD is approximately 15%, but is strongly affected by age, being higher in older subjects
• Males and females are at similar risk for osteoporosis and fracture
• Corticosteroid use is the variable most strongly associated with osteoporosis.
• The overall relative risk of fractures is 40% greater than that of the general population and increases with age

Gastro 2003;124:795-841
Corticosteroid Use at UNC

Prevalence of steroid use in GI clinic: 12.9%

Guidelines: Management of Osteoporosis

- All patients should receive education on the importance of lifestyle changes
  - Weight bearing exercise
  - Quitting smoking
- Preventive measures should be used for anyone on >5 mg prednisone/day for three months
- DEXA scan for those initiating corticosteroids
- Calcium (1500 mg) /Vitamin D (800 IU) and bisphosphonates as needed for treatment
- Corticosteroid dosing in IBD should be kept to a minimum

Gastro 2003;124:795-841
Cervical Cancer
Cervical Cancer

- In 2010 it is estimated that there will be 12,200 new cases of cervical cancer, with 4200 deaths in the United States.
- Largely preventable disease via screening: Pap smear.
- It is estimated that 50% of women who receive diagnoses of cervical cancer have never been screened.

ACOG practice bulletin: clinical management guidelines—no. 44, July 2003
Cervical Dysplasia in IBD

- Some small studies have shown a higher incidence of abnormal Pap smear in women with IBD compared to healthy controls
  - Increased risk associated with immunosuppression
- A recent population-based study from Canada showed no association between IBD and abnormal Pap smears
  - There was increased risk in patients on a combination of corticosteroids and immunosuppressants

Cervical Testing in IBD

- Patients with IBD have suboptimal rates of cervical testing
- Patients with a primary care provider have improved rates of cervical testing
- Patients on immunosuppression have reduced rates of cervical testing
- Patients with IBD should have routine Pap smears, regardless of whether they choose to receive the HPV vaccine

Cervical Testing in IBD

Proportion of women with IBD who obtain Pap smear over recommended 36 month interval*

*Proportions: PCC = 71.1%, Medicaid = 70.7%, Immuno Meds = 71.7%

p = <0.01

*Bivariate comparisons by Pearson’s chi square test statistic

ACOG 2010 Guidelines: Pap Smears

• Women should have their first screening Pap smear at age 21
• Women in their 20’s should have a Pap smear every two years (assuming prior Pap smears have been normal)
• Women age 30 and older who have had three consecutive normal Pap smears should have a Pap smear every three years
ACOG 2010 Guidelines: Pap Smears

- Women who have had a hysterectomy for non-cancerous reasons do not need a Pap smear unless they have a cervix.
- These guidelines need to be followed regardless of whether a woman has had the HPV vaccine.
Skin Cancer
Skin Cancer (non-melanoma)

- 1 in 5 Americans develops skin cancer, which accounts for 1/3 of all cancers in the US
  - Categorized into squamous and basal cell carcinoma

- Environmental risk factors for NMSC
  - Ultraviolet light
  - Chemical exposures

- Host risk factors
  - Human papilloma virus
  - Genetic susceptibilities
  - Immunosuppression

Incidence of Skin Cancer in IBD

Those with IBD are >60% more likely to develop skin cancer

Risks of Immunosuppression in IBD

Recent (≤90 days) and persistent (≥365 days) medication use and skin cancer in patients with CD or UC*

<table>
<thead>
<tr>
<th></th>
<th>Crohn’s disease</th>
<th>Ulcerative Colitis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recent (n=1935)</td>
<td>Persistent (n=1141)</td>
</tr>
<tr>
<td>Thiopurine class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 3.87</td>
<td>(2.88-5.21)</td>
<td>OR 4.25 (2.81-6.42)</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>OR 1.58 (0.57-4.33)</td>
<td>OR 2.69 (0.63-11.56)</td>
</tr>
<tr>
<td>Any biologic</td>
<td>OR 2.07 (1.28-3.33)</td>
<td>OR 2.18 (1.07-4.46)</td>
</tr>
</tbody>
</table>

*Adjusted for other classes of medications and Medicaid insurance

Skin Cancer Prevention in IBD

• Primary prevention via sun avoidance, sun protection or minimization of modifiable risk factors for skin cancer
  – Sun protective clothing with a UPF of 30
  – Broad-spectrum sunscreens (UVA and UVB) with a SPF of 30 or greater
  – Reapplication of sunscreen every 2 hours
Skin Cancer Prevention in IBD

• Secondary prevention
  – No current recommendation for annual skin examination in IBD
    • Annual skin examinations are recommended in post-transplant patients on immunosuppression
  – Any skin lesion suspicious for malignancy in a patient with IBD on immunosuppression should be evaluated by a trained dermatologist
Vitamins
Vitamins

- In patients with active CD, there is the potential for vitamin malabsorption
- Fat soluble vitamins A, D, E have been shown to be decreased in CD patients as compared to controls
- Water soluble vitamins B1, B2, B6 and Folate have been shown to be reduced
- No studies have shown vitamin supplementation to impact disease activity in IBD

Vitamins

• Vitamin D depletion is common among healthy adults and children
  – Rates of depletion are even higher among patients with IBD
• Vitamin D has a role in the regulation of the immune system of the gut
• Vitamin D has not been investigated as a treatment for IBD and there are no current guidelines for monitoring Vitamin D status or optimizing stores in IBD patients

Pappa H et al. Inflamm Bowel Dis. (12) 2006: 1162-1172
Vitamins

• Vitamin replacement does not impact course of IBD
• Vitamin D is often low in patients with IBD
  – Sun exposure and supplementation increases levels
• Vitamin B12 is absorbed in the distal part of the small bowel (terminal ileum)
  – Patients with small bowel resection may therefore have reduced levels
  – Supplementation can help with anemia and fatigue
Summary
Summary: Health Maintenance in IBD

- Review your immunization record with your provider, obtain all appropriate vaccines
- If you have a history of long-standing steroid use, discuss DEXA scan with your provider
  - Calcium (1500 mg) and Vitamin D (800 IU) replacement
- Women should obtain Pap smears at recommended intervals
- Practice preventive measures for skin cancer: sunscreen and protective clothing
  - Show your provider any suspicious skin lesions
- In those with a history of small bowel resection for CD, discuss checking a Vitamin B12 level with your provider