Vaccinations in IBD patients

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Vaccinations

- Physician reluctance/knowledge:
  - only 1/3 of GP's feel comfortable co-ordinating immunizations for immunosuppressed IBD patients
  - GI docs mess it up over ½ the time...
  - 1/3 will give live vaccine in an immunocompromised patient
  - 1/3 will withhold live vaccines in immunocompetent patients
  - Half will not obtain a vaccination history
- But...
  - Accurate immunization history is essential in multiple health domains
  - GP well suited to provide routine immunization recommendations for all patients

Vaccinations in Alberta

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Type</th>
<th>How often &amp; Where</th>
<th>Booster required?</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMR V</td>
<td>Live</td>
<td>Two doses (12 months, 4-8 years)</td>
<td>No, two doses until 18 months</td>
</tr>
<tr>
<td>Hep B</td>
<td>Inactivated</td>
<td>Three doses (grade 1)</td>
<td>Child Aged 12 years</td>
</tr>
<tr>
<td>IPV</td>
<td>Inactivated</td>
<td>Three doses (grade 1-5 girls and born)</td>
<td>Stades ongoing - possible need beyond 5 years</td>
</tr>
<tr>
<td>DTaP</td>
<td>Inactivated</td>
<td>Four doses (≥ 1.5 months, 4-6 years, grade 5)</td>
<td>Ed every 10 years (e.g., school age)</td>
</tr>
<tr>
<td>IPV-IBB</td>
<td>Inactivated</td>
<td>Three doses (≥ 1.5 months)</td>
<td>Monitoring does not required</td>
</tr>
<tr>
<td>Meningococcal conjugate</td>
<td>Inactivated</td>
<td>Four doses (≥ 1.5 months, grade 5)</td>
<td>No</td>
</tr>
<tr>
<td>Pneumococcal conjugate</td>
<td>Inactivated</td>
<td>Three doses (≥ 1.5 months)</td>
<td>Every 3 years (e.g., 7-11 years)</td>
</tr>
<tr>
<td>Influenza</td>
<td>Inactivated</td>
<td>Anually</td>
<td>Anually</td>
</tr>
<tr>
<td>Zoster</td>
<td>Live</td>
<td>Two doses – adults ≥ 50 (vacc or boost)</td>
<td>Recommended for those who did not receive VaxxedA vaccine (regardless of previous zoster)</td>
</tr>
</tbody>
</table>

Vaccinations – the IBD patient

- Considerations in IBD patients:
  - Current immunosuppression status
    - Including prednisone dose
  - Future need for immunomodulator or biologic agent
  - Type of vaccine required (live vs. inactivated)
  - Age, smoking status

Vaccinations – the IBD patient

- What is considered immunosuppressed?
  - Prednisone ≥ 20mg daily for more than 2 weeks, in the past 3 months
  - Ongoing Tx with thiopurines or methotrexate, at effective doses, in the past three months
  - Anti-TNF therapy in the past three months
  - Severe protein-calorie malnutrition
  - Starting anti-TNF and/or immunomodulator (thiopurine, MTX) in next 1-3 months
General considerations

- **What to check at initial visit**
  - Immunization history (i.e. patient brings it with them)
    - MMR and varicella titer (if vaccination or infection history unknown)
    - Hep A IgG, Hep B IgG and sAb (if no recent titres in past 5 years, or if no prior immunization)
  - Vaccinations that can be administered regardless of immunosuppressive use
    - Anything that is not live!!
      - Td/P, Hep A, Hep B, HPV, meningococcal, pneumococcal, influenza (injectable only)
  - Live vaccines
    - Have patients receive if no immunosuppressive therapy planned in next 4-12 weeks

General considerations – the travelling IBD patient

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Live (Yes/No)</th>
<th>Dosing schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A</td>
<td>No</td>
<td>2 doses (0 and 1-2 months), booster q4yr</td>
</tr>
<tr>
<td>Yellow fever</td>
<td>Yes</td>
<td>Yellow SC booster q3yr</td>
</tr>
<tr>
<td>Typhoid</td>
<td>Oral (Yes)</td>
<td>1 capsule q2d x 4 doses</td>
</tr>
<tr>
<td></td>
<td>Injectable (No)</td>
<td>1 dose IM</td>
</tr>
<tr>
<td>Yellow meningococcal</td>
<td>Yes</td>
<td>Generally not recommended</td>
</tr>
<tr>
<td>Japanese encephalitis</td>
<td>No</td>
<td>2 doses (1 of 0, 28 days)</td>
</tr>
<tr>
<td>Rabies</td>
<td>No</td>
<td>3 doses (IV: 0, 7, 21 days)</td>
</tr>
</tbody>
</table>

In general, avoid live vaccines in the immunocompromised patient

General considerations

- **Will vaccines work in IBD patients on IS?**

Figure 4. Proportion of subjects achieving “overall vaccine response,” defined as both a geometric mean titer (GMT) > 1 ng/mL and a twofold or greater increase in baseline titer to at least three or more enterotypes by group.
- Group A (N=20): on Aza minimum of 3 months, MTX minimum of 8 weeks, and at least one dose of ADA/IFX (as part of active therapy)
- Control (N=19), IBD ASA (N=25).

General considerations

- Will vaccines work in IBD patients on IS?

- Azathioprine (N=19) – minimum 16 weeks
- IFX (N=26) or AZA+IFX (N=16) - minimum 24 weeks
- Control (N=35) – on ASA only

Vaccinations - HPV

Abnormal Pap Smears in Women With IBD and Recommendations for HPV Vaccine

- Patients with exposure to immunosuppressive therapy significantly more likely to have abnormal Pap smear vs. controls (P < 0.001)4
- Female patients with IBD - immunosuppressive therapy are at increased risk of developing cervical dysplasia8
- HPV vaccine should be a priority in this group, regardless of immunosuppression4

Vaccinations - recommendations

- Inactivated vaccines in IBD patients

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Duration of treatment/recommendations</th>
<th>Need to do it already on immunosuppressive or in Stable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tdap</td>
<td>No</td>
<td>1-month interval (i.e., post 10 weeks of treatment)</td>
</tr>
<tr>
<td>HPV (16, 18, 68, 9, 11)</td>
<td>Yes</td>
<td>1-month interval (i.e., post 10 weeks of treatment)</td>
</tr>
<tr>
<td>Influenza</td>
<td>No</td>
<td>1-month interval (i.e., post 10 weeks of treatment)</td>
</tr>
<tr>
<td>Pneumovax</td>
<td>No</td>
<td>1-month interval (i.e., post 10 weeks of treatment)</td>
</tr>
<tr>
<td>Hep A</td>
<td>Yes</td>
<td>1-month interval (i.e., post 10 weeks of treatment)</td>
</tr>
<tr>
<td>Hep B</td>
<td>Yes</td>
<td>1-month interval (i.e., post 10 weeks of treatment)</td>
</tr>
<tr>
<td>Meningococcal</td>
<td>Yes</td>
<td>1-month interval (i.e., post 10 weeks of treatment)</td>
</tr>
</tbody>
</table>
Vaccinations - recommendations

- Live vaccines in IBD patients

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Check this first?</th>
<th>Before initiation of immunosuppressing</th>
<th>What do I if already on immunosuppressing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMR</td>
<td>Yes if vaccination history unknown</td>
<td>Contraindicated if plans to start therapy in 6 weeks</td>
<td>Contraindicated</td>
</tr>
<tr>
<td>Zoster</td>
<td>No</td>
<td>Contraindicated if plans to start therapy in 1-2 months</td>
<td>Contraindicated — could consider if no other live vaccines (TB vaccine, inactivated polio vaccine, oral rotavirus vaccine)</td>
</tr>
<tr>
<td>Varicella</td>
<td>Yes if vaccination history unknown or no prior varicella infection</td>
<td>Contraindicated if plans to start therapy in 1-2 months</td>
<td>Contraindicated — no varicella vaccine available</td>
</tr>
</tbody>
</table>

Vaccinations

- What I do in my practice:
  - Patients asked to provide vaccination history
    - Available from public health clinic
  - Influenza: annually for all patients
    - Advised to avoid the live (intranasal) flu vaccines
  - Other inactivated vaccines — based on immunization history,
    - TdDap, Hep A/B, HPV (both M/F)
  - All smokers > 50 on IS receive the Pneumovax vaccine
  - Live vaccines: not while on immunosuppressive therapy
    - MMR, VZV, HDV
  - In General: try to give vaccines before initiation of immune suppressing therapy

Thank you