Vaccinations in IBD patients

Dr. Jesse Siffledeen, MD FRCPC, MSc (Oxon)
Department of Gastroenterology, Grey Nuns hospital
Division of Gastroenterology, University of Alberta

Faculty Disclosure

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GI for course GPs

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

Wasan et al. Am J Gastroenterol 2010; 105:1231-1238

Vaccinations in Alberta

Current vaccine schedule in Alberta			
Vaccine	**Type**	**How often (& When)**	**Boosters required?**
MMR-V	Live, attenuated	Two doses (12 months, 4-6 years)	No. Two doses confer 100% immunity.
Hep B	Inactivated	Three doses (grade 5)	Check Ab titres
HPV	Inactivated	Three doses (grade 5 – girls **and boys)**	Studies ongoing – possible need beyond 5 years
DTaP	Inactivated	Five doses (2,4,6 months, 4-6 years, grade 9)	Td every 10 years (especially if HCW)
IPV-HiB	Inactivated	Three doses (2,4,6 months)	Reinforcing doses not required
Meningococcal conjugate	Inactivated	Four doses (2,4,12 months, grade 9)	No
Pneumococcal conjugate	Inactivated	Three doses (2,4,12 months)	6 months (for high risk children)
Influenza	Inactivated (injectable)	Annually, starting at 6 months	Annually
Influenza	Live (intra-nasal)		
Zoster	Live, attenuated	Elective – adults > 50 (once or twice)	Recommended for those who did not receive Varicella vaccine (regardless of previous shingles)

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 varicalla titer (if vaccination or infection history unknown)
    - Hep A IgG, Hep B sAg 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!!
    - TdaP, 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

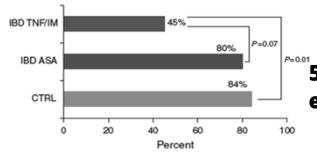
General considerations – the travelling IBD patient

Common vaccines for the traveller		
Vaccine	**Live (Yes/No)**	**Dosing schedule**
Hepatitis A	No	2 doses (0 and 6-12 months), boster q10yr
Yellow fever	Yes	1 dose SC, booster q10yr
Typhoid	Oral (Yes)	1 capsule q2d x 4 doses
	Injectable (No)	1 dose IM
Tuberculosis BCG	Yes	Generally not recommended
Japanese encephalitis	No	2 doses IM (0, 28 days)
Rabies	No	3 doses IM (0,7,21 days)

In general, avoid live vaccines in the immunocompromised patient

General considerations

- Will vaccines work in IBD patients on IS?



55 percent of the expected response

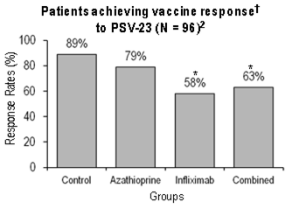
Figure 4. Proportion of subjects achieving "overall vaccine response," defined as both a geometric mean titer (GMT) >1 mg/100 ml and a twofold or greater increase in baseline titers to at least three or more serotypes by group.

- 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).

Melmed et al. Am J Gastroenterol 2010; 105:148–154

General considerations

- Will vaccines work in IBD patients on IS?



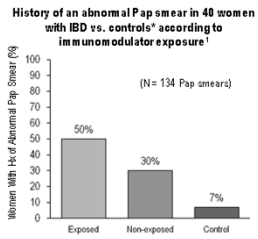
Two-thirds the expected response

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

Fiorino et al. Inflamm Bowel Dis 2012;18:1042–1047

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 ($P < .001$)[1]
- Female patients with IBD +/- immunosuppressive therapy are at increased risk of developing cervical dysplasia[2]
  - HPV vaccine should be a priority in this group, regardless of immunologic status[2]

Kane et al. Am J Gastroenterol 2008; 103:631-636

Vaccinations - recommendations

- Inactivated vaccines in IBD patients

Vaccine	Check titre first?	Before initiation of immunomodulator or biologic?	What to do if already on immunomodulator or biologic?
Td/Tdap	No	Administer vaccine if not given over the past 10 y or give Tdap if Td ≥2 y	Administer vaccine if not given over the past 10 y or give Tdap if Td ≥2 y
HPV (females 9-26 yo)	No	3 doses (0, 2, 6 months)	3 Doses (0, 2, 6 months)
Influenza	No	Annual vaccine. Administer trivalent inactivated influenza vaccine. Avoid live attenuated influenza vaccine (FluMist)	Annual vaccine. Administer trivalent inactivated influenza vaccine. Avoid live attenuated influenza vaccine (FluMist)
Pneumococcal	No	Vaccinate if none previously, and 1-time revaccination after 5 y if immunosuppressed	Vaccinate if none previously, 1-time revaccination after 5 y if immunosuppressed
Hepatitis A	Yes	2 doses at 0, 6–12 months; or 0, 6–18 months; booster >10 y	2 doses at 0, 6–12 months; or 0, 6–18 months; booster >10 y
Hepatitis B	Yes	3 doses at 1, 1–2, 4–6 months; check post-vaccine titers at 1 month after finishing last dose. If no response, then revaccinate with double dose	3 doses at 1, 1–2, 4–6 months; check post-vaccine titers at 1 month after last dose. If no response, then revaccinate with double dose
Combination hepatitis A/B (Twinrix)	Yes	May be given instead of HAV and HBV individually or to individuals without a response to HBV vaccination	May be given instead of HAV and HBV individually or to individuals without a response to HBV vaccination
Meningococcal	No	Vaccinate in at-risk patients if none previously	Vaccinate in at-risk patients if none previously

Vaccinations - recommendations

- Live vaccines in IBD patients

Vaccine	Check titre first?	Before initiation of immunomodulator or biologic?	What to do if already on immunomodulator or biologic?
MMR	Yes if vaccination history unknown	Contraindicated if plans to start therapy in 6 weeks	Contraindicated
Zoster (for age >60)	No	Contraindicated if plans to start therapy in 1–3 months	Contraindicated — could consider if on short-term corticosteroids (<14 days), or low doses of methotrexate (<0.4 mg/kg/week), azathioprine (<3.0 mg/kg/day), or 6-mercaptopurine (<1.5 mg/kg/day)
Varicella	Yes if vaccination history unknown or no prior varicella infection	Contraindicated if plans to start therapy in 1–3 months	Contraindicated — no adequate data to suggest otherwise

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, HZV
  - In General: try to give vaccines before initiation of immune suppressing therapy

Thank you