

Background and Significance

Psoriasis

- Autoimmune skin disorder
- Associated with painful and debilitating psoriatic arthritis

Biologic Therapy

- Effectively treats autoimmune disorders through immunosuppression
- Leave patients at risk for infection

National Psoriasis Foundation (NPF) Abbreviated Guidelines

Vaccine	Prior to starting biologic	Currently receiving biologic
Influenza	<ul style="list-style-type: none"> • Recommended yearly • May use trivalent inactivated influenza vaccine (TIV) or live attenuated influenza vaccine (LAIV) 	Recommended yearly with TIV only
Pneumonia	In adults ≥18 years old, recommend vaccination with PPSV23	In adults ≥18 years old, PCV13, followed by PPSV23 in >8 weeks, if not yet received
Herpes zoster	Recommend one dose of live attenuated vaccine in adults >50 years of age	Contraindicated

(Wine-Lee, et al., 2013) (CDC, 2014)

Research Questions

Did provider documentation indicating review of immunization status, prior to initiating the biologic, increase after implementation of the questionnaire?

Did provider documentation indicating review and recommendation of the live attenuated herpes zoster vaccine, prior to initiating the biologic, increase after implementation of the questionnaire?

Did provider documentation indicating review and recommendation of the influenza vaccine, prior to initiating the biologic, increase after implementation of the questionnaire?

Did provider documentation indicating recommendation of the pneumonia vaccine, prior to initiating the biologic, increase after implementing the questionnaire?



Methods

Participants

- Providers at a private dermatology practice
- Documentation of adult patients with psoriasis receiving biologic therapy from January 01, through December 18, 2014

Materials

- Vaccine questionnaire which served as a provider reminder
- Vaccine recommendation table
- Vaccine educational handout

Procedure

- Protection of human subjects/IRB approval
- Education of providers and staff
- Implementation of patient questionnaire which served as a provider reminder
- Data collection

Design and analyses

- Descriptive study (N = 20): pre- and post- intervention
- Chi squared regressions with McNemar's test to determine provider review of immunization history and provider recommendation of influenza vaccine
- Descriptive statistics to discuss provider recommendation of herpes zoster and pneumonia vaccines

Materials

Vaccination Questionnaire

Patient Name: _____ DOB: _____

Have you received the following immunizations? If so, when and where?

Influenza: no / yes / not sure
Date: _____
Where: _____

Pneumonia: no / yes / not sure
Date: _____
Where: _____

Herpes Zoster/Shingles: no / yes / not sure
Date: _____
Where: _____

Reviewed by Provider: _____ (MD or ARNP) Date: _____

Vaccination Educational Handout

We recommend that you receive the following vaccines:
(Providers please circle all that apply)

Flu
Pneumonia
Herpes Zoster (shingles)
Other (please specify): _____

You have several options for places to go to get your vaccine. You can contact your Primary Care Provider for an appointment, or you can contact the health department:

Health Department
832 West Central Blvd
Orlando, FL 32806
407-836-2650
www.orchd.com

There are also several pharmacies and supermarkets with pharmacy services that offer vaccines without a prescription and accept private insurance and Medicare. You can use the following website to find information on where to get vaccines. This website lists pharmacy names, addresses, phone numbers, websites, directions and store hours.

www.flushot.healthmap.org

Findings

Variable	Pre-intervention	Post-intervention	p-value
Provider review of immunization history	n = 0 0%	n = 18 90%	p < 0.0001
Provider recommendation of influenza vaccine	n = 0 0%	n = 7 35%	p < 0.0233
Provider recommendation of herpes zoster vaccine	n = 0 0%	n = 1 0.05%	N/A*
Provider recommendation of pneumonia vaccine	n = 0 0%	n = 0 0%	N/A*

*see discussion

Discussion

Several factors contributed to the findings in this study (N = 20):

- Patient questionnaire was not placed on 2 charts (n = 2)
- Upon completing the questionnaire, several patients had previously received vaccines, making recommendation unnecessary
 - Influenza (n = 7)
 - Herpes zoster (n = 2)
 - Pneumonia (n = 5)
- With herpes zoster, several patients were currently receiving biologics, where vaccination was contraindicated (n = 15)

When considering the number of immunization review and recommendations made, where the questionnaire was properly placed on the chart and where vaccine was clinically appropriate for the patient:

- Review
 - 18 charts eligible, 18 charts reviewed: 100% increase from baseline
- Influenza recommendation
 - 11 patients eligible, 7 recommendations made: 64% increase from baseline
- Herpes zoster recommendation
 - 1 patient eligible, 1 recommendation made: 100% increase from baseline
- Pneumonia recommendation
 - 13 patients eligible, 0 recommendations made: no change from baseline, indicating that a better understanding of guidelines is needed

Limitations

Short duration of study which did not allow for follow up

Small sample size and the fact that recommendation was not needed for for some patients did not allow for tests of statistically significant differences

Need for immunization review prior to start of biologic therapy

Several patients were found to have previously received the vaccines or were not clinically appropriate to receive vaccines due to immunocompromised status

Need for Further Research

Further research is needed in the following areas:

- Assessment of patient follow-up with vaccine recommendations
- Assessment of other populations using biologic therapy
 - Crohn's disease
 - Rheumatoid Arthritis
- Assessment of other immunosuppressed populations
 - HIV positive
 - Oncology
- Assessment of provider recommendations for other immunizations included in NPF guidelines

Recommendations for Practice

Reminder tool is effective for improving provider review of immunizations

Reminder tool is effective for recommending influenza vaccine

Reminder tool aids in initiating important vaccine conversation between provider and patient

Provider education is needed on age guidelines for pneumonia vaccine in immunocompromised adults

Conclusion

Using the concept of practice development, evidence-based guidelines can enhance patient care.

Patients with psoriasis taking biologic agents are immunosuppressed. Providers must be vigilant in reviewing immunization history in order to make appropriate recommendations.

Use of a patient questionnaire might also be helpful in initiating more timely conversation between patient and provider about necessary immunizations prior to the start of biologic therapy

While this study examined practices in a dermatology clinic, this intervention has a much broader scope and can be applied in any patient care setting where immunizations must be managed to prevent infection and ensure patient safety

Selected References

Centers for Disease Control and Prevention (CDC) (2014b). Immunization schedules. Retrieved March 29, 2014 from www.cdc.gov/vaccines/schedules/hcp/imz/adult.html

Wine-Lee, L., Keller, S., Wilck, M., & Gluckman, S. (2013). From the Medical Board of the National Psoriasis Foundation: Vaccination in adult patients on systemic therapy for psoriasis. *Journal of the American Academy of Dermatology*, 69(6), 1003-1013. doi:10.1016/j.jaad.2013.06.046

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