Abstract:

Evaluation of A Two-Dose Series Vaccine in An Academic Medical Center
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Background: Varicella-zoster virus (VZV) causes chickenpox then remains dormant in the body and may potentially reactivate years later and present as herpes zoster, more commonly known as "shingles"[4]. Not all patients infected with VZV develop shingles, but immune-compromised patients and those over the age of 50 are at risk due to a decline in immunity. Shingrix vaccine was approved by the FDA in October of 2017 and is considered the preferred herpes zoster vaccine by the Advisory Committee on Immunization Practices (ACIP)[3] when compared to the historic single dose vaccine Zostavax. The Shingrix vaccine has shown superiority in efficacy over Zostavax as a two-dose series to be completed within a 6-month time period for optimal protection[1]. However, due to surplus in demand the vaccine has been on shortage, under the circumstances the CDC has stated that if the second dose of Shingrix is received outside of the 6 month timeframe, the patient is not to restart the series, they are just to receive the second dose and the series is considered complete[2].

Methods: A single center retrospective chart review was completed to evaluate the Shingrix second dose administration (vaccination series) completion rate within the optimal 2-6-month time period at The University of Kansas Health System (TUKHS).

Results: A total of 4,499 total Shingrix administrations from October 2017- October 2019 were evaluated, this included 2,323 incomplete vaccination series and 2,176 completed vaccination series. Of the completed series 156 were less than 2 months apart, 1,688 were within the optimal 2-6-month time frame, and 332 were greater than 6 months apart. Of the incomplete series 54 were given inpatient with no follow up, and 2,263 were given in outpatient clinics with no follow up.

Conclusions: As a health system the data shows greater number of one dose administrations than two dose administrations. This may be due to lack of follow up for completion of series or lack of documentation if the series was completed off site. 97% of the incomplete series were in outpatient clinics. For optimal protection completing the 2-dose series is recommended, follow up and documentation in outpatient clinics to document if the patient received the vaccine off site is an area of improvement within the TUKHS.

References:

1) Dooling KL, Guo A, Patel M, et al. Recommendations of the Advisory Committee on Immunization Practices for Use of Herpes Zoster Vaccines. MMWR Morb Mortal Wkly Rep 2018;67:103–108.

2) Centers for disease control and prevention: FAQ about Shingrix for healthcare professionals: March 2018 https://www.cdc.gov/vaccines/vpd/shingles/hcp/shingrix/faqs.html

3)Maltz, Fraidy, and Brooke Fidler. "Shingrix: A New Herpes Zoster Vaccine." *P & T : a peer-reviewed journal for formulary management* vol. 44,7 (2019): 406-433.

4) Kaye K. Herpes Zoster - Infectious Diseases - MSD Manual Professional Edition. 2018 [cited 29 August 2019]. Available from: www.merckmanuals.com/professional/infectious-diseases