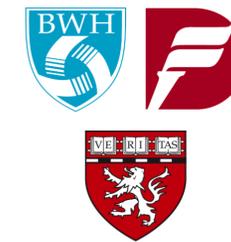


Safety of Live-attenuated Zoster Vaccination in Multiple Myeloma Patients Receiving Maintenance Lenalidomide after Autologous Stem Cell Transplantation



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Background

- Herpes zoster reactivation is common after autologous HSCT, affecting 30%-52% of patients in the five years following transplantation.
- While acyclovir prophylaxis is an effective strategy to prevent zoster, patients are likely to have zoster reactivation after discontinuation of acyclovir.
- Pain, scarring, and post herpetic neuralgia (PHN) are the most common morbidities associated with zoster reactivation and can occur in up to 33% of patients. Dissemination and visceral involvement are uncommon, but can lead to increased morbidity and mortality.
- Lenalidomide is an analogue of thalidomide with immunomodulatory, antiangiogenic, and antineoplastic properties. There are no data on the safety of live virus vaccination in patients receiving lenalidomide.
- The safety of live-attenuated zoster vaccine (Zostavax) in multiple myeloma patients on maintenance lenalidomide after autologous hematopoietic stem cell transplantation (auto-HSCT) is unknown.
- At our institution the zoster vaccine is typically given around two years post auto-HSCT provided patients are not on any immunosuppression.

Methods

- We conducted a retrospective study of multiple myeloma patients seen at our institution between May 2007 and January 2014. Patients who met the following criteria were included:
 - received an autologous HSCT
 - were on lenalidomide maintenance, and
 - Received a dose of live-attenuated zoster vaccine (Zostavax)
- Patients were excluded if they:
 - were taking acyclovir or valacyclovir for zoster prophylaxis when they received the vaccine, or
 - started acyclovir or valacyclovir for prophylaxis within 42 days after vaccination.
- Zoster vaccine was given at the primary oncologist's discretion.
- Medical records including prescriptions and medications lists were reviewed. Occurrence of skin rash and any clinically significant adverse events (AEs) were recorded until 42 days after vaccination.
- Any prescriptions for acyclovir, valacyclovir or famciclovir that could indicate treatment of a zoster episode were captured.

Cohort Characteristics

Characteristic	N (%)
Number of patients	70
Sex	
Male	43 (61.4)
Female	27 (38.6)
Median Age, years (IQR, range)	63 (60-68, 46-75)
VZV seropositive	58 (82.9)
Median time to vaccination, months (IQR, range)	25 (24-26, 19-62)

Adverse Events 42 days after vaccination

Adverse Event	N (%)
Vesicular rash	0 (0)
Non-vesicular rash	2 (2.9)
Worsening Post-Herpetic Neuralgia *	1 (1.4)
Upper Respiratory Tract Infection (URI)	10 (14.3)
Prescribed treatment	2
Over-the-counter treatment	1
No treatment	7
Fever	1 (1.4)
Hospitalizations up to day 42	0 (0)
Death up to day 42	0 (0)

*The patient had pre-existing post-herpetic neuralgia and reported increased pain after vaccine administration

Discussion

- No cases of vesicular rash suggestive of zoster due to either the vaccine or the wild type strain were reported in this cohort, up to 42 days after vaccination.
- 10 patients (14.3%) had URI symptoms after vaccination. It is unclear if these URIs were associated with vaccination or coincidental. Two patients required prescription for antimicrobials, the remainder were managed symptomatically or required no treatment. None required hospitalization or Emergency room visit.
- One patient with preexisting post-herpetic neuralgia reported a worsening of PHN after receiving the vaccine.
- One patient developed fever after vaccination that resolved without requiring medical attention.

Conclusion

Zoster vaccine administered around 24 months after auto-HSCT appears to be safe and well-tolerated in multiple myeloma patients on maintenance lenalidomide.

Disclosures

None of the authors have any financial disclosures or conflicts of interest.

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