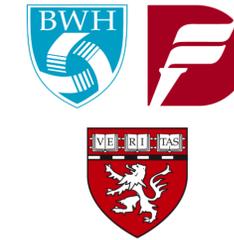


Safety of MMR Vaccination in Multiple Myeloma Patients Receiving Maintenance Lenalidomide or Bortezomib after Autologous Stem Cell Transplantation



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Background

- Immunity against measles, mumps, and rubella is presumed lost after stem cell transplantation.
- Revaccinating autologous hematopoietic stem cell transplant (auto-HSCT) recipients with measles, mumps, and rubella (MMR) vaccine may help restore immunity and is recommended 24 months after auto-HSCT in patients not receiving any immunosuppressive therapy.
- The safety of MMR vaccine in multiple myeloma patients on maintenance lenalidomide or bortezomib after auto-HSCT is unknown.
- At our institution the MMR 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 auto-HSCT
 - Were receiving maintenance lenalidomide, bortezomib or both and
 - Received MMR vaccine
- MMR 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.

Disclosures

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

Cohort Characteristics

Characteristic	N (%)
Number of patients	136
Sex	
Male	77 (56.6)
Female	59 (43.4)
Median Age, years (IQR, range)	64 (58-69, 29-79)
Median time to vaccination, months (IQR, range)	25 (24-27, 18-39)
Maintenance Therapy	
Lenalidomide	123 (90.4)
Bortezomib	7 (5.2)
Both	6 (4.4)
Also received zoster vaccination	90 (66.2)

Adverse Events up to 42 days after vaccination

Adverse Event	N (%)
Rash* on lenalidomide	6 (4.4) 5 (3.7)
Upper Respiratory Tract Infection Prescribed treatment	18 (13.2) 6
Over-the-counter treatment	3
No treatment	9
on lenalidomide	16 (11.8)
Fever on lenalidomide	2 (1.5) 2
Hospitalizations up to day 42	0 (0)
Death up to day 42	0 (0)

*VZV rash (2)

Non-specific rash (4): urticarial rash (2), groin rash (1), dry patches of skin (1)

Discussion

- No cases of skin rash suggestive of measles or rubella were reported in this cohort, up to 42 days after vaccination.
- 6 patients (4.4%) reported a skin rash. 5 cases occurred in the lenalidomide group. 2 patients developed a vesicular rash and were diagnosed with zoster after acyclovir prophylaxis was discontinued. Neither of these 2 patients received the zoster vaccine concomitantly with MMR. The rashes in the 4 remaining cases were non specific : urticarial rash (2), groin rash (1) dry patches of skin (1)
- 18 patients (13.2%) had URI symptoms after vaccination. It is unclear if these URIs were associated with vaccination or coincidental. Five patients required prescription for antimicrobials, the remainder were managed symptomatically. None required hospitalization or emergency room visit.
- 2 patients developed fever after vaccination that resolved without requiring medical attention.

Conclusion

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

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