PB2036 RISK AND PATTERN OF INFECTIONS IN NEWLY DIAGNOSED PATIENTS OF MULTIPLE MYELOMA VACCINATED UPFRONT AGAINST PNEUMOCOCCUS & INFLUENZA

Topic: 14. Myeloma and other monoclonal gammopathies - Clinical

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Background:
Infections contribute to an early mortality risk of 15 percent in newly diagnosed multiple myeloma (NDMM) cases. There is a limited literature on the type of infections in fully vaccinated NDMM patients.

Aims:
To study epidemiology, clinical profile and predictors of infection in NDMM who are immunised against pneumococci and influenza.

Methods:
NDMM patients were prospectively studied for 6 months for the pattern of infections. All patients were vaccinated with pneumococcal and Influenza vaccine at diagnosis. PJP prophylaxis and fluconazole prophylaxis was given for patients receiving high dose steroids while acyclovir was given to all. Infections were classified as microbiologically defined, clinically defined and fever of unknown focus according to definitions published by the International Immunocompromised Host Society. Severity of infections were graded according to the NCI CTCAE Ver5.

Results:
Forty-eight NDMM patients with a median age 55 years comprising of 26 males and 22 females were enrolled. Renal involvement was noted in 42% of enrolled patients and two third of them required renal replacement therapy. ISS III and R-ISS III were 70.8 % and 62.5 % respectively. 85% had poor performance status (ECOG ≥2) at baseline. RVD was the most common regimen (37%) used. 6 patients received daratumumab based regimen. Treatment response of at least VGPR was seen in 97% of NDMM patients.

A total of 19 episodes of infections were observed during 6 months. All episodes of infections were reported in the first 45 of myeloma diagnosis (Median 6 days; Range 0–45). Ten of these episodes of infection were diagnosed during the initial evaluation for myeloma defining events. Microbiological diagnosis was possible in 63 %. Commonest infectious agent was COVID 19(n=8) followed by Gram negative bacteria (n=5) viz E.coli and Klebsiella pneumoniae. None of the eight patients who developed COVID 19 infection had received COVID vaccine as they antedated the operationalisation of national guidelines for immunisation. Respiratory and the urinary tract were the most common focus of infection. All critically ill COVID patients succumbed to progressive respiratory failure and all patients with mild and moderate COVID illness recovered uneventfully. Early mortality in our cohort of forty eight patients was twenty percent(n=10). Three fourths of infections in our cohort were Grade ≥3 severity. A total of seven deaths were attributable to infectious diseases in this cohort of NDMM patients. Immune paresis was seen in eighty four percent of patients. Regression analysis of variables with odds of infection is shown in Table 1

Baseline BMI<18.5 kg/m2; albumin<3g/dl and ISS or R-ISS stage ≥ 2 was found to be have statistically significant odds of predicting infection risk in the cohort of patients. The choice of myeloma regimen, presence of high risk
cytogenetics and response to therapy did not correlate with increased odds of infection in our cohort.

Image:

Summary/Conclusion:

Conclusion

In this prospective study of NDMM patients vaccinated against pneumococci and influenza at baseline; infection attributable early mortality was 14.5 %. Advanced stage of presentation, hypoalbuminemia and baseline BMI < 18.5 kg/m2 correlated with increased odds of infection. COVID vaccination and COVID appropriate behavioural practices may mitigate COVID related outcomes including deaths in myeloma patients.