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652.MULTIPLE MYELOMA: CLINICAL AND EPIDEMIOLOGICAL

COVID-19 Vaccine Acceptance/Hesitancy and Influence on Infection in Patients with Multiple Myeloma: A National-Wide Multicenter Survey in China

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Background
Patients with multiple myeloma (MM) are immunocompromised due to impaired humoral and cellular immunity in addition to immunosuppressive therapy. The situation and protective effects of severe coronavirus disease 2019 (COVID-19) vaccination in MM patients are not clarified. The study aimed to explore the reasons of COVID-19 vaccine hesitancy and its influence on severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) infection in MM patients during COVID-19 Omicron BA.4/5 subvariant outbreak in China.

Methods
An anonymous online questionnaire designed by our team was distributed to MM patients national-wide from December 26, 2022, to April 20, 2023. Then content of questionnaire included the contents of disease status, vaccination and SARS-COV-2 infection.

Results
A total of 508 valid questionnaires from 30 provinces were collected all over China. The vaccination rate of COVID-19 in MM patients was only 34.1% (n=173). The overall infection rate was 57.2%. Multivariate analysis showed that demographic characteristics were not factors affecting vaccination, while those accomplishing autologous stem cell transplantation (ASCT) presented a lower vaccination rate (20.2% vs. 48.4%, P<0.001). In the survey of vaccine acceptance/hesitancy, voluntary choice (49%), concerns to COVID-19 infection (35.1%), and trust of vaccine efficacy (26.5%) were the three main reasons for receiving vaccines. Physicians' suggestion (52.0%), conflicts of MM treatment (37.8%) and concerns about MM progression (31.3%) were the top three reasons for vaccine hesitancy. Adverse events (AEs) after vaccination were mainly myalgia or joint pain, fatigue and erythema or swelling at the site of injection. No MM disease-related adverse effects were reported. Among 104 vaccinated MM patients with SARS-COV-2 infection, the median time since last vaccines to infections was 304 days (range 4-593). The infection rates between the vaccinated population (n=173) versus non-vaccinated ones (n=335) were 60.1% vs. 55.8% respectively (P=0.35). In subgroup analyses, the infection rates in vaccinated patients were lower than those in unvaccinated ones including the elderly (49.3% vs. 55.2%), obese patients (BMI≥28) (50% vs. 63.3%), and R/RMM population (42.2% vs. 66.7%, P=0.005). The proportion of hospitalized patients due to SARS-COV-2 infection in vaccinated group was significantly lower than that in unvaccinated group (4.8% vs.12.3%, P=0.038).

Conclusions
Vaccine hesitation is common in Chinese MM patients although inactivated COVID-19 vaccine only causes mild AEs. Lower infection rate in MM patients is probably due to strict self-quarantine. COVID-19 vaccination is not translated into less SARS-

COV-2 infections, but does protect the elderly, obese or R/RMM patients from severe infections. Clinicians are suggested to encourage MM patients to receive COVID-19 vaccines for the sake of reducing severe infections and related mortality.

Keywords
Questionnaire; Multiple Myeloma; vaccination; SARS-COV-2; outbreak infection

Disclosures No relevant conflicts of interest to declare.

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