

Multiple Myeloma and COVID-19 vaccination: the European Myeloma Network's recommendations to guide clinicians in protecting their patients

November 3, 2021. The **EMN – European Myeloma Network foundation** published its consensus statement for COVID-19 vaccination in patients with multiple myeloma on the *Lancet Haematology journal*. The article is entitled “**COVID-19 vaccination in patients with multiple myeloma: a consensus of the European Myeloma Network**”¹ and is the result of the cooperation between a panel of members of the EMN, and few external experts who conducted an extensive literature research and evaluated recently published data presented at meetings, as well as findings from their own studies and observations of COVID-19 vaccination and COVID-19 disease in patients with multiple myeloma and related diseases.

Multiple myeloma is a hematologic malignancy with an estimated global prevalence of 550.000 patients. Myeloma is frequently associated with impaired immune function and an increased risk for infections and infection-related mortality. Therefore, myeloma patients are also at increased risk of COVID-19 infection, more severe and prolonged course of COVID-19 disease, with higher rates of hospitalization, intensive care requirement, and mortality.

“The higher risk for infection with SARS-CoV-2 virus and resulting mortality for patients affected by multiple myeloma, emphasizes the importance of protecting those patients by vaccination. – explained Prof. Pieter Sonneveld, President of the EMN network – This is the reason why the EMN made an important effort to better understand how vaccination is actually working in these patients and what can be done to better protect them”.

The EMN expert panel found that vaccination of patients with multiple myeloma using BNT162b2 (Pfizer BioNTech), mRNA-1273 (Moderna), ChAdOx1 nCoV-19 (AstraZeneca) and AD26.COVID.5 (Johnson & Johnson) vaccines results in lower antibody titres and cellular immunity compared to controls, with a large variation between individual patients, and with about 20-50% of patients developing no or only a low immune response. Factors associated with poor response are uncontrolled disease, immunosuppression, concomitant therapy, more lines of therapy, and CD38 antibody-directed and B-cell maturation antigen-directed therapy.

Identifying patients who do not produce a marked immune response is important to schedule them for a third (or after AD26.COVID.5 for a second) vaccine dose. For patients who have been exposed to a SARS-CoV-2-infected individual new prophylactic measures are available. In

¹Heinz Ludwig, Pieter Sonneveld, Thierry Facon et al., COVID-19 vaccination in patients with multiple myeloma: a consensus of the European Myeloma Network. *The Lancet Haematology* 2021; 21: 2352-3026. See also: [https://www.thelancet.com/journals/lanhae/article/PIIS2352-3026\(21\)00278-7/fulltext](https://www.thelancet.com/journals/lanhae/article/PIIS2352-3026(21)00278-7/fulltext)

these cases, administration of recently approved monoclonal antibody cocktails against spike antigens should be considered for reducing the risk of developing clinical manifest disease.

Monitoring the immune response to vaccination in patients with multiple myeloma might provide guidance for clinical management, such as administration of additional doses of the same or another vaccine, or even temporary treatment discontinuation, if possible. In those who do not exhibit a good response, prophylactic treatment with neutralising monoclonal antibody cocktails might be considered. Also, adherence to measures for infection risk reduction is particularly recommended in patients deficient of a SARS-CoV-2 immune response.

“The aim of our consensus is to provide clinicians with background information on COVID-19 infection and vaccination, and guidance for optimal vaccination management of their patients with the intention to protect them from the risks of frequently severe sequels of infection with SARS-CoV-2 virus” – affirmed **Prof. Heinz Ludwig**, Wilhelminen Cancer Research Institute and Center for Oncology, Hematology, and Palliative Care in Vienna.

About EMN – European Myeloma Network foundation

The European Myeloma Network (EMN) is a non-profit organization, created in 2005. This network is the reference organization for multiple myeloma studies in Europe: physicians can participate in cooperative projects to increase and share their experiences, and to standardize and harmonize clinical practices; pharmaceutical companies can refer to the EMN as a general interlocutor in Europe to plan and manage clinical trials with new effective molecules; and, most importantly, patients can be enrolled in clinical studies evaluating last-generation and promising drugs, with the ultimate goal of improving their survival and quality of life. Various national groups collaborate within the EMN, such as the Netherlands (where the headquarter is located), Italy (with the data centre of the network), Germany, Austria, France, Spain, Greece, Czech Republic, the UK, Norway, Denmark, and many more countries will participate in the EMN projects in the future. For further information, please contact the EMN (President Prof. Pieter Sonneveld): <https://www.myeloma-europe.org/>

About Multiple Myeloma

Multiple myeloma is a rare and highly heterogeneous hematologic malignancy typical of the elderly, with a median age at diagnosis of approximately 65 years. In Europe, this disease has an incidence of 4.5 new cases per 100,000 people, with around 33,000 new cases each year. Multiple myeloma arises in plasma cells, a type of white blood cells. In multiple myeloma, cancerous plasma cells accumulate in the bone marrow, and, rather than produce helpful antibodies, the tumour cells produce abnormal proteins that can cause serious complications, such as hypercalcemia, renal failure, anaemia, and bone lesions. Much progress has been made in the treatment of this disease thanks to the introduction of autologous stem cell transplantation, and innovative and effective novel agents. In the last ten years, the median survival of patients has improved from only 2 to 8-10 years. Yet, there is a long way ahead and further research to support patients and their family is needed.

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