

COVID-19 vaccination efficient in patients with cancer who receive active anticancer treatment

Prof. Jean-Yves Blay of the Department of Medical Oncology, Centre Léon Bérard, Université Claude Bérard in Lyon, France and colleagues reported on 2 August 2021 in the *Annals of Oncology* findings from an analysis of the clinical efficacy of COVID-19 vaccination in a series of 1503 patients with cancer under active treatment for cancer.

All patients in the series received one or two doses of COVID-19 vaccine in the Centre Léon Bérard and the study team observed reduced SARS-CoV-2 infection and death in those who received two doses of COVID-19 vaccine. However, documented COVID-19 and death rate were higher in patients with cancer who received only one dose of COVID-19 vaccine and in patients with haematological malignancies.

COVID-19 vaccinatie effectief bij patiënten met kanker die actief worden behandeld worden voor kanker.

Uit onderzoek is gebleken dat patiënten die twee doses van het COVID-19 vaccin hebben gekregen een verlaagde kans hadden op het ontwikkelen van een CoV-2 infectie en het overlijden als gevolg daarvan. Bij patiënten die slechts één vaccinatie hadden gekregen en patiënten met hematologische maligniteiten was de kans op infectie en overlijden een stuk hoger.

Findings from an analysis of the clinical efficacy of COVID-19 vaccination in a large series of patients with cancer

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Topics:

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From 4th January to 6th April 2021, 1503 patients with cancer without previously documented SARS-CoV-2 infection were included in the analysis. There was slightly less female patients (n = 735, 48.9%) and median age was 64.8 years (range, 16.7-95.4). Less than 10% of patients refused the COVID-19 vaccination.

In total, 1127 patients (74.9%) received BNT162b2, 317 patients (21.1%) received mRNA-1273, and 59 patients (4%) received ChAdOx1 vaccine, depending on availability. Of those, 1203 patients (80%) had a solid tumour and 300 patients (20%) had haematological malignancy, including 72 patients with chronic lymphocytic leukaemia. In total, 1081 patients (71.9%) had metastatic disease. In terms of type of anticancer treatment, 1003 patients (66.7%) received cytotoxic chemotherapy, 60 patients (3.9%) received anti-CD20, 245 patients (16.3%) received radiotherapy and 189 patients (12.5%) have been treated by surgery in the last 3 months.

In total, 1091 patients (72.6 %) received two doses of COVID-19 vaccine, and 412 patients (27.4 %) received only one dose. Median follow-up was 44 days (range, 1-130) for the whole group of 1503 patients. During that period, 24 of the 1503 patients (1.5%) developed COVID-19 symptoms with documented SARS-CoV-2 on RT-PCR; 4 of 1091 patients (0.4%) who received two doses of vaccine versus 20 of 412 patients (5%) who received only one vaccine dose ($p < 0.0001$). At 21 days after first COVID-19 vaccine dose, these numbers were 4 of 1001 patients (0.4%) versus 5 of 283 patients (1.7%) among those who received two versus one dose of vaccine ($p = 0.016$). The same differences were observed when mRNA vaccines were selected.

RT-PCR documented SARS-CoV-2 infection was not correlated with age, co-morbidities (for example diabetes, renal failure, obesity), solid or haematological malignancies.

In total, 3 of the 24 patients (12.5%) with positive RT-PCR died of COVID-19; of those 2 among 5 patients (40%) with hematological malignancy versus 1 of 19 patients (5%) with solid tumours ($p = 0.036$). An overall mortality rate was 0.7% and 0.08% in these two groups. The overall survival within 2 months from the date of the first vaccine dose was inferior in patients vaccinated with one dose versus in patients who received two vaccine doses (log rank $p=0.015$) in the overall population, and also at 21 days analysis ($p = 0.032$).

In total, 96 of the 1503 patients (6%) were tested for antispikes antibody after vaccination at a median time of 55 days after the first vaccine dose. Of those 96 patients, 61 (63%) had detectable antispikes antibody. Among these, 4 of the 8 (50%) patients who presented later a documented SARS-CoV-2 by RT-PCR had a detectable antispikes antibody. Among the 96 tested patients, 4 of the 5 patients (80%) who died had undetectable antispikes antibody after vaccination versus 31 of 91 (34%) of the remaining patients ($p = 0.038$). Two of the 5 patients who died had a RT-PCR documented SARS-CoV-2 infection.

The authors concluded that according their experience, COVID-19 vaccination is efficient in patients with cancer. Documented COVID-19 was more frequent in patients who received only one dose of vaccine. In this large series, overall death rate in a period of 2 months following the first vaccine dose was significantly higher in patients who received only one dose of COVID-19 vaccine and in patients with haematological malignancies.

Reference

Heudel P, Favier B, Assaad S, *et al.* [Reduced SARS-CoV-2 infection and death after two doses of COVID-19 vaccines in a series of 1503 patients.](#) *Annals of Oncology*, Published online 2 August 2021. DOI: <https://doi.org/10.1016/j.annonc.2021.07.012>