ISSN: 2834-5274

Research Article

Journal of Surgery Care

Psycho-Adhesion to Covid-19 Vaccine in Cancer Patients: A Single Center Experience in Algeria

Assia Bensalem[1*], Abdelaziz Ammari[1], Sihem Bensalem[2], Houda Meguellati[1], Amina Boudraa[1], Asma Seghiri[1], Ouided Messalbi[1], Meryem Boudjerda[1], Mouna Dekdouk[1] and Sabrina Haddad[1]

[1]*Medical Oncology Department, Hospital Establishment DIDOUCHE Mourad, Faculty of Medicine, University Constantine 3, Algeria*

[2]*Endocrinology-Diabetology and Metabolic diseases, Regional University Military Hospital Commander Abdellali BENBAATOUCHE (HMRUC) Constantine, Faculty of Medicine, University Constantine 3, Algeria*

[*]Corresponding Author
Assia Bensalem, Medical Oncology Department, Hospital Establishment DIDOUCHE Mourad, Faculty of Medicine, University Constantine 3, Algeria.

Submitted: 2026, Apr 13; **Accepted**: 2026, May 15; **Published**: 2026, May 25

Citation: Bensalem, A., Ammari, A., Bensalem, S., Meguellati, H., Boudraa, A., et al. (2026). Psycho-Adhesion to Covid-19 Vaccine in Cancer Patients: A Single Center Experience in Algeria. *J Surg Care, 5*(2), 01-06.

Abstract

Introduction: *During the COVID pandemic, the medical oncology department of the Hospital Establishment DIDOUCHE Mourad, Constantine, launched a vaccination campaign for eligible patients with cancer, during the vaccination campaign initiated by the Ministry of Health. Materials and Methods: Faced with the risk of contracting the severe form of COVID19 in patients with cancer, immunocompromised by the disease, by the treatments received or to be received but also living in an environment not spared by the COVID19 infection, the team of the medical oncology department thought of this type of patients and developed a well-established vaccination protocol for patients with cancer. This vaccination protocol respected all barrier measures while taking certain precautions to eliminate patients who would be carriers of an asymptomatic COVID-19 infection or whose symptoms would be like oncology emergencies.*

Results: *Without any obligation and after informing the patient, the vaccination lasted five days and saw significant patient adherence. Out of 379 patients who came to the department during these five days, 201 patients agreed to be vaccinated, representing a percentage of 53.03% and only 180 patients (47.49%) were vaccinated (due to lack of sufficient quantity of vaccines at our level during these five days and the high adherence of patients)), against 8.97% of refusal (34 patients). The remaining patients (37.9%) had either absolute or non-absolute contraindications to vaccination or had contracted a recent COVID infection; delaying the vaccination to 3 months. Only one side effect (0.55%) was noted; that of hypoglycemia in a patient who presented on an empty stomach to the ward All these patients (100%) agreed to be vaccinated in the oncology department and refused to join the vaccination site opened within the establishment because of a relationship of trust - security established between patients-attending physicians*

Conclusion: *Medical work department and preventive epidemiology services should continue to vaccinate health personnel and the population; eligible respectively but the category of eligible patients (which is no longer an eligible person but an eligible patient); and especially patients with chronic diseases should be cared for in treatment's centers according to patients' choices*

Keywords: Vaccination, COVID-19, Cancer, Patients, Eligible, Medical Oncology, Membership, Trust, Safety

1. Introduction

The immunocompromised status of patients with cancer, exacerbated by both their malignancy and treatments, places them at a heightened risk for severe outcomes from SARS-CoV-2 infection [1,2]. In the context of oncology, symptoms like fever, cough, and pain must be managed with extreme caution as they may represent life-threatening oncologic emergencies [3]. This vulnerability necessitates targeted protective strategies [4]. In

response, our medical oncology department in Constantine, Algeria, developed a dedicated vaccination campaign, aiming to assess adherence and identify key factors influencing vaccine acceptance within this specific patient cohort.

2. Material and Methods

2.1. Study Design and Setting

This prospective, single-center study was conducted in the Medical Oncology Department of the Hospital Establishment DIDOUCHE Mourad (Constantine, Algeria) during a dedicated vaccination campaign in September 2021. The primary objective was to assess the rate of adherence to COVID-19 vaccination among cancer patients within their familiar treatment environment. A secondary objective was to identify the primary reasons for vaccine refusal or deferral.

2.2. Ethical Considerations

This study was an analysis of anonymized patient data. As the research involved no direct intervention or modification of standard patient care, formal approval from an ethics committee was not required in accordance with institutional and national guidelines for observational studies. All patient data were anonymized prior to analysis to protect confidentiality.

2.3. Vaccination Protocol

A standardized vaccination protocol was developed by the oncology team to ensure patient safety and integrate vaccination seamlessly with oncology care.

- **Eligibility and Screening:** All patients presenting for consultation were considered for inclusion. A structured interview was conducted to assess eligibility, which included checking for recent COVID-19 infection (within the last 3 months, confirmed by RT-PCR), active fever, or known allergies to vaccine components. Patients were also screened for comorbidities and concurrent treatments (e.g., immunosuppressive therapy, corticosteroids, anticoagulants) that might influence vaccination timing.
- **Vaccination Procedure:** For eligible patients who provided informed consent, the vaccination process was integrated into their visit. After vital signs were recorded, patients received a single intramuscular dose of the inactivated SARS-CoV-2 vaccine (CoronaVac, Sinovac Biotech), which was the primary vaccine available in Algeria at the time. The choice was also influenced by its favorable storage requirements and perceived safety profile in this fragile population. Patients were observed for at least 30 minutes post-injection for any immediate adverse events.
- **Coordination with Cancer Treatment:** The timing of vaccination was carefully coordinated with ongoing therapies. For patients on systemic chemotherapy, vaccination was scheduled between treatment cycles. For those on B-cell depleting therapies (e.g., Rituximab), vaccination was deferred for 3 to 6 months following treatment cessation. Patients receiving hormone therapy or those in remission could be vaccinated at any time during their consultation visit.

2.4. Data Collection

Data were collected over two distinct periods. The first period (five days in September 2021) corresponded to the active on-site vaccination campaign, where 379 patients were enrolled. A second observational period of five additional days followed, during which vaccines were unavailable in the department, to assess patient intent when vaccination could not be immediately provided. During this time, 395 additional patients were surveyed. Demographic data, cancer type, treatment status, vaccination decision (acceptance, refusal, deferral), and reasons for that decision were recorded in a local registry. Any reported side effects were documented.

2.5. Statistical Analysis

All data were compiled using Microsoft Excel (2007) and subsequently analyzed using SPSS software (version 26). Descriptive statistics were used to summarize patient characteristics and vaccination outcomes.

3. Results

A total of 379 cancer patients were included in the study. The demographic and clinical characteristics of the study population are detailed in **Table 1.**

Age	Women	Men	TOTAL
18-24 years old	1		1
25-29 years old		1	1
30-34 years old	5	1	6
35-39 years old	5		5
40-44 years old	16	4	20
45-49 years old	11	4	15
50-54 years old	21	5	26
55-59 years old	22	8	30
60-64 years old	13	5	18
65 years old and more	27	31	58
TOTAL	121	59	180

Table 1: Baseline Characteristics of the Study Cohort by Age and Sex

The cohort consisted of 121 women (67.22%) and 59 men (32.77%). The distribution of the study cohort by sex is illustrated in **Figure 1**

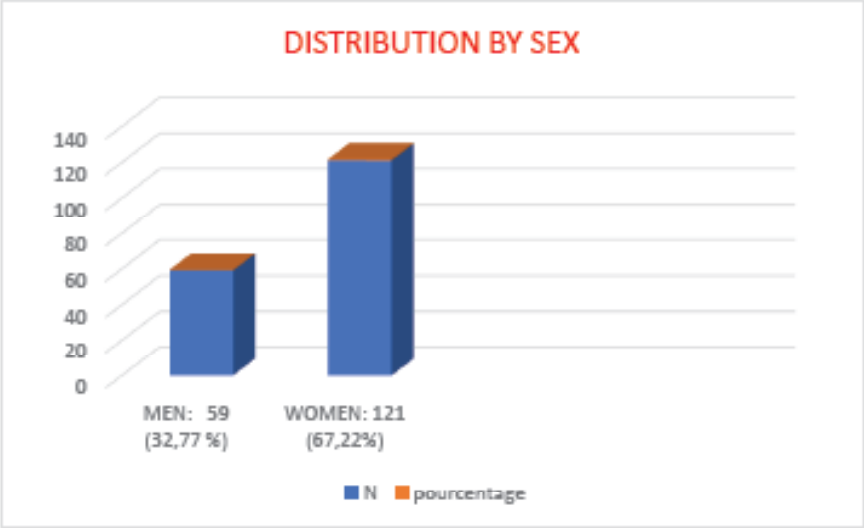

Figure 1: Distribution by Sex

while the age group distribution is shown in **Figure 2**

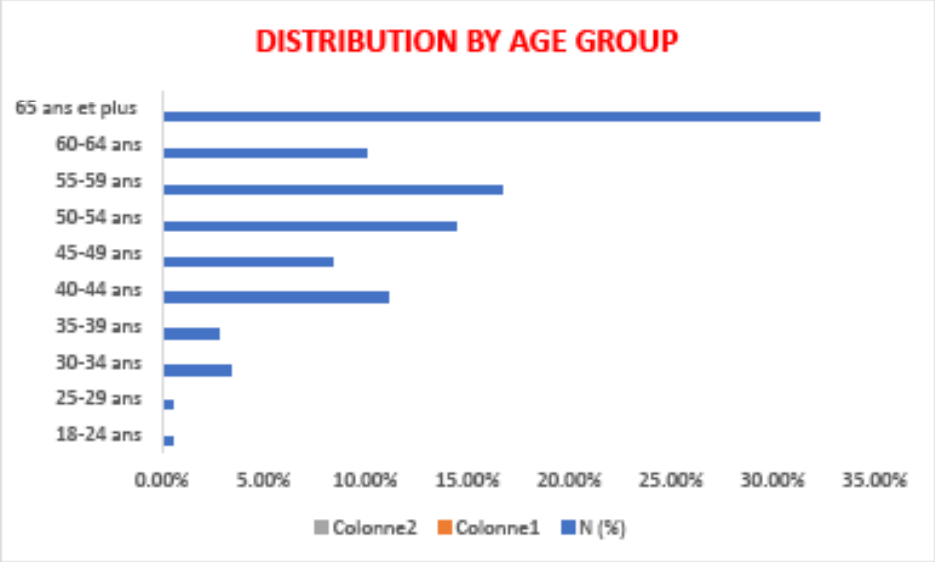

Figure 2: Distribution by Age Group

The distribution of tumor types among the vaccinated patients is summarized in Table 2, with breast cancer being the most prevalent (40.56%).

Tumor Type	N	%
Breast	73	40.56
Colo-rectal	35	19.44
Lung	9	5
Prostate	8	4.44

Gastric	7	3.88
Pancreas	7	3.88
Ovary	6	3.33
Bladder	4	2.22
Gall bladder and Cholangiocarcinoma	4	2.22
Others (Endometer, LNH, UCNT, Glioblastoma, Larynx, Thymoma, Cutaneous tumor	27	15

Table 2: Distribution of Tumor Types Among the Vaccinated Patients

The outcomes regarding vaccination status, including refusals, deferrals, and contraindications, are presented in **Table 3**

	PATIENTS : n (%)
Already vaccinated	**42** (11.08)
Refusal of vaccination	**34** (8,97)
Hesitation	**4** (1,05)
Without pronounciation	**32** (8,44)
COVID récent	**34** (8,97)
Deferred vaccination - Fatigue after recent chemotherapy - Recent surgery - Febril neutropenia - Chemotherapy in progress	**18** (4,74) - 13 (72,22) - 1 (5,55) - 1 (5,55) - 3 (16,66)
Contraindications - Corticotherapy - PR under treatment - Tuberculosis - Minor - Treatment by Rituximab ongoing - Allergic ground - Recent ischemic AVC	**12** (3,16) - 2 (16,66) - 1 (8,33) - 1 (8,33) - 2 (16,66) - 4 (33,33) - 1 (8,33) - 1 (8,33)
Positive Antigenic Test	**1** (0,26)
Hope of vaccination - Real Vaccination - Lack of vaccine	**201** (53,03) - 180 (47,49) - 21 (5,54)
TOTAL	**379 (100%)**

PR : purpura rhumatoïde, SEMEP : Service d'épidémiologie et de médecine préventive

Table 3: Vaccination Status and Outcomes of the Study Population

42 (11.08%) were already vaccinated, 34 (8.97%) patients refused the idea of vaccination, 4 (1.05%) hesitated and 32 (8.44%) patients did not want to comment yet at the time of the consultation and preferred to continue their treatments. 34 (8.97%) patients had the notion of recent COVID. 18 (4.74%) were postponed of which 13 (72.22%) were tired following recent chemotherapy, 1 (5.55%) for recent surgery, 1 (5.55%) for febrile neutropenia, 3 (16.66%) for oral chemotherapy not yet stopped. 12 (3.16%) patients had contraindications to vaccination including 2 (16.66%) on long-term corticosteroid therapy, 1 (8.33%) rheumatoid arthritis on treatment, 1 (8.33%) tuberculosis, 2 (16.66%) minors, 4 (33.33%) on treatment with Rituximab, 1 (8.33%) notion of allergic terrain, 1 (8.33%) recent ischemic stroke (less than 20 days), 1 (0.26%) patient had a positive antigen test. 201 (53.03%) expressed a wish

to be vaccinated and only 180 (47.49%) were vaccinated and 21 (5.54%) patients were unable to receive vaccines (due to lack of quantity on the last day of the study). Only 1 patient (0.55%) had a side effect such as hypoglycemia-hypotension because she presented on an empty stomach to the ward. Only 1 (0.26%) patient accepted vaccination outside the medical oncology department

In parallel, the study was continued (without much conviction and with less enthusiasm) over five additional days with 395 patients of whom 22 (5.56%) were already vaccinated, 44 (11.13%) refused vaccination, 16 (4.05%) patients had recent COVID, and 68 patients (17.21%) expressed the wish to be vaccinated but 100% of them wanted to be vaccinated in the oncology treatment department and refused to travel at the vaccinating center of the epidemiology and preventive medicine department within the establishment (SEMEP). 2 (0.95%) patients were vaccinated in SEMEP. 27 (6.83%) patients were deferred for fatigue following recent chemotherapy or scheduled surgery or non-infectious lung disease. 5 (1.26%) had a contraindication and were on long-term corticosteroid therapy or had stroke or heart disease. 174 (44.05%) patients did not comment and wanted to continue chemotherapy.

4. Discussion

During the vaccination campaign on a population of patients presenting to the medical oncology department, it should be noted that patients preferred to be vaccinated in their place of treatment because of a relationship of trust and assurance established since the beginning of management of their disease; between patient and attending physician. Some patients; 49 (12.92%) have already tried to get vaccinated elsewhere, found difficulties and showed feelings of fear towards this vaccination because the vaccination teams; apart from the attending physicians oncologists, apprehend the care of this type of patients. Vaccination rate; 47.49% in this population (eliminating those who did not have access to the vaccine by lack during the last day and those delayed for side effects of chemotherapy) is considered among the highest rates and concerns an immunocompromised population whose drug treatment must be taken into consideration during this campaign.

The second population studied during the absence of vaccines within the service was not approached with the same impetus and enthusiasm as the 1st population for fear of wanting to accept vaccination to immunocompromised patients without being able to provide logistics (vaccines) and which would have resulted in the loss of the feeling of trust that linked patients to treating physicians. In summary, and if vaccination had been continued (and according to the experience conducted over a period of ten (10) days), the actual vaccination rate would have been 41.08%; i.e. 318 patients among the 774 patients presenting to the medical oncology department and studied over a period of 10 days. Patients who hesitated or who had a delayed vaccination for reasons of fatigue or other, all expressed the wish to be vaccinated within the department. Patients already vaccinated were 64 patients (8.26%). Those who refused vaccination were 10.07% (78 patients). 26.61% (206 patients) did not express an opinion and wanted to continue their drug treatment in oncology without interruption. 50 (6.45%) patients had a recent COVID-19 infection and 18 patients (2.32%) had a contraindication to vaccination. Only 3 patients (0.38%) agreed to be vaccinated outside the oncology department; during the period when the vaccine was missing at the department.

4.1. Clinical Implications

All patients accepted the principle of vaccination but in different times. Some; the majority, after information about the vaccination, accepted the vaccination. Others accepted but after finishing chemotherapy.

4.2. Study Limitations

The main limitation of the study was the lack of vaccination durig the period of sensibilization.

5. Conclusion

The involvement of the various specialists; each in its field, is more than necessary for the success of a vaccination campaign during a pandemic such as the COVID-19 pandemic. The feeling of fear and apprehension of patients is quickly lifted when patients-subjects eligible for vaccination are cared for in treatment centers where the relationship of trust is essential for the largest possible adherence. This work should be continued to achieve the triple objective of a vaccination strategy during a pandemic, which consists in reducing mortality and the onset of severe forms of the disease, protecting patients and caregivers and thus preserving the health care system and finally guaranteeing the safety of vaccines and vaccination in a population of immunocompromised patients while preserving free and free and free of charge. the consent of patients after information-awareness without any obligation whose essential message is to be vaccinated against SARS-CoV-2 [5-23].

Links of interest

The authors declare that they have no links of interest

Acknowledgements

The authors would like to thank the staff of the oncology and endocrinology departments at Didouche Mourad University Hospital, and Regional University Military Hospital Commander Abdellali BENBAATOUCHE (HMRUC) in the Constantine province for their invaluable assistance in data collection and patient management. We are also grateful to all the patient whose data are in this study.

Declarations

This study had an anonymized patient data. As the research involved no direct intervention or modification of standard patient care, formal approval from an ethics committee was not required in accordance with institutional and national guidelines for observational studies. All patient data were anonymized prior to analysis to protect confidentiality and **treated according to the Algerian national guidelines**

Funding

This study received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Authors' Contributions

Conceptualization: Abdelaziz AMMARI, Assia BENSALEM; **Methodology:** Sihem BENSALEM; **Software:** Abdelaziz AMMARI; **Validation:** Abdelaziz AMMARI, Sihem BENSALEM, Assia BENSALEM; **Formal Analysis:** Sihem BENSALEM; **Investigation:** Abdelaziz AMMARI, Sihem BENSALEM, Assia BENSALEM; **Resources:** Abdelaziz AMMARI; **Data Curation:** Abdelaziz AMMARI, Sihem BENSALEM, Assia BENSALEM; **Writing - Original Draft Preparation:** Abdelaziz AMMARI, Sihem BENSALEM; **Writing - Review & Editing:** Abdelaziz AMMARI, Sihem BENSALEM, Assia BENSALEM ; **Visualization:** Sihem BENSALEM; **Supervision:** Abdelaziz AMMARI, Sihem BENSALEM; **Project Administration:** Assia BENSALEM; **Funding Acquisition:** Not applicable.

References

1. Ribas, A., Sengupta, R., Locke, T., Zaidi, S. K., Campbell, K. M., Carethers, J. M., Jaffee, E. M., Wherry, E. J., Soria, J.-C., & D'Souza, G. (2021). Priority COVID-19 vaccination for patients with cancer while vaccine supply is limited. *Clinical Cancer Research.*
2. Wang, Q., Berger, N. A., & Xu, R. (2020). Analyses of risk, racial disparity, and outcomes among US patients with cancer and COVID-19 infection. JAMA Oncology.
3. Kuderer, N. M., et al. (2020). Clinical impact of COVID-19 on patients with cancer (CCC19): A cohort study. The Lancet, 395, 1907–1918.
4. Zhang, L., Zhu, F., Xie, L., et al. (2020). Clinical characteristics of COVID-19-infected cancer patients: A retrospective case study in three hospitals within Wuhan, China. Annals of Oncology.
5. Desai, A., et al. (2021). COVID-19 vaccine guidance for patients with cancer participating in oncology clinical trials. *Nature Reviews Clinical Oncology, 18*, 313–319.
6. Baden, L. R., et al. (2020). Efficacy and safety of the mRNA-1273 SARS-CoV-2 vaccine. *New England Journal of Medicine, 384*, 403–416.
7. Zhang, Y., et al. (2020). Safety, tolerability, and immunogenicity of an inactivated SARS-CoV-2 vaccine. *The Lancet Infectious Diseases, 21,* 181–192.
8. Desai, A., Sachdeva, S., Parekh, T., & Desai, R. (2020). COVID-19 and cancer: Lessons from a pooled meta-analysis. *JCO Global Oncology, 6,* 557–559.
9. Mejri, N., Berrazaga, Y., Ouertani, E., Rachdi, H., Bohli, M., Kochbati, L., & Boussen, H. (2021). Understanding COVID-19 vaccine hesitancy and resistance in cancer patients. Supportive Care in Cancer.
10. Fanciullino, R., Ciccolini, J., & Milano, G. (2021). COVID-19 vaccine race: Watch your step for cancer patients. *British Journal of Cancer, 124,* 860–861.
11. Al-Quteimat, O. M., & Amer, A. M. (2020). The impact of the COVID-19 pandemic on cancer patients. American Journal of Clinical Oncology.
12. Liang, W., Guan, W., Chen, R., et al. (2020). Cancer patients in SARS-CoV-2 infection: A nationwide analysis in China. *The Lancet Oncology, 21*, 335–337.
13. Wang, H., & Zhang, L. (2020). Risk of COVID-19 for patients with cancer. *The Lancet Oncology, 21*, E181.
14. National Institute for Health and Care Excellence (NICE). (2020). COVID-19 rapid guideline: Delivery of systemic anticancer treatments.
15. European Society for Medical Oncology (ESMO). (2020). COVID-19 and cancer. European Society for Medical Oncology.
16. Ueda, M., Martins, R., Hendrie, P. C., et al. (2020). Managing cancer care during the COVID-19 pandemic: Agility and collaboration toward a common goal. *Journal of the National Comprehensive Cancer Network, 18*, 1–4.
17. Kutikov, A., Weinberg, D. S., Edelman, M. J., et al. (2020). A war on two fronts: Cancer care in the time of COVID-19. *Annals of Internal Medicine.*
18. Tsai, R., et al. (2021). COVID-19 vaccine hesitancy among individuals with cancer, autoimmune diseases, and other serious comorbid conditions. medRxiv.
19. So, A. C. P., et al. (2021). COVID-19 vaccine safety in cancer patients: A single centre experience. *Cancers, 13*(14), 3573.
20. Ting, F. I., Uy, C. D., Bebero, K. G., & Sacdalan, D. B. (2021). COVID-19 vaccine and patients with cancer. *Cancer*.
21. Department of Health Philippines. (2021). The Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines.
22. American Society of Clinical Oncology (2021). COVID-19 vaccines and patients with cancer.
23. National Comprehensive Cancer Network (2021). NCCN Cancer and COVID-19 vaccination guidelines.