



**HAL**  
open science

## **Skin cancer and COVID -19: was the diagnosis safeguarded by teledermatology? a study on 1229 cases**

Charbel Skayem, Camille Hua, Ouidad Zehou, Arnaud Jannic, Alice Viarnaud, Pierre Wolkenstein, T.A. Duong

### ► **To cite this version:**

Charbel Skayem, Camille Hua, Ouidad Zehou, Arnaud Jannic, Alice Viarnaud, et al.. Skin cancer and COVID -19: was the diagnosis safeguarded by teledermatology? a study on 1229 cases. Journal of the European Academy of Dermatology and Venereology, 2022, 10.1111/jdv.18138 . hal-03654024

**HAL Id: hal-03654024**

**<https://hal.sorbonne-universite.fr/hal-03654024>**

Submitted on 28 Apr 2022

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

1 **Article type:** Letter to the editor

2

3 **Article Title: Skin cancer and COVID-19: was the diagnosis safeguarded by tele dermatology?**

4

5 Charbel Skayem MD<sup>1,2</sup>, Camille Hua MD<sup>2</sup>, Ouidad Zehou MD<sup>2</sup>, Arnaud Jannic MD<sup>2</sup>, Alice Viarnaud  
6 MD<sup>2</sup>, Pierre Wolkenstein MD PhD<sup>2</sup>, Tu Anh Duong MD PhD<sup>3,4</sup>

7

8 <sup>1</sup> Sorbonne University, Faculty of medicine, Paris, France

9 <sup>2</sup> Assistance Publique des Hôpitaux de Paris (AP-HP), Henri Mondor Hospital, France

10 <sup>3</sup> Chaire Avenir Santé numérique, Equipe 8 IMRB, Inserm, Université Paris Est Créteil, France

11 <sup>4</sup> Assistance Publique des Hôpitaux de Paris (AP-HP), Department of Telemedicine, Hôpital Université  
12 Paris-Saclay, France

13

14 **Corresponding author:**

15 Tu Anh Duong, MD, PhD

16 Department of Telemedicine

17 AP-HP Université Paris-Saclay

18 78 rue du général Leclerc

19 94270 Le Kremlin Bicêtre

20 Tel /Fax : 00 33 1 49 09 44 29

21 E-mail : [tu-anh.duong@aphp.fr](mailto:tu-anh.duong@aphp.fr)

22

23 **Funding sources:** None

24

25 **Conflicts of Interest:** None declared.

26

27 **IRB status:** approved, IRB number 00011558

28

29 **Word count:** Manuscript (excluding references): 560 words

30

31 **References:** 7

32

33 **Tables and Figures :** 2

34

35 **Abbreviations and acronyms:**

36 Skin cancer (SC)

37 Teledermatology (TD)

38 Long-term care facilities (LTCF)

39 Health care professionals (HCPs)

40 General physicians (GPs)

41

42

43 During COVID-19 pandemic, dermatology practices are shifting to teledermatology (TD)<sup>1</sup>. The objective  
44 of our study is to assess the effect of the first vs second COVID-19 waves on skin cancer (SC) requests  
45 via TD.

46

47 The study was conducted in a dermatology department, characterized by a store-and-forward TD between  
48 health care professionals (HCPs) and dermatologists. All TD requests during the first (March and April  
49 2020) and second (October and November 2020) COVID-19 waves in France were retrieved and  
50 compared to the corresponding period in 2019. Collected data included the provenance and diagnoses of  
51 patients. The provenance was divided into: institutions [long-term care facilities (LTCF) and hospitals]  
52 and non-institutions (private physician clinics). Diagnoses of patients were divided into: SC,  
53 inflammatory dermatoses, infectious dermatoses, cutaneous drug adverse reactions, and “other”  
54 diagnoses. The proportions of these diagnoses during both COVID waves in 2020 were compared to the  
55 corresponding months in 2019. For SC diagnoses, institution and non-institutions requests during both  
56 waves were also compared to the same period in 2019.

57 ***First wave (March and April 2020 vs 2019):***

58 The total number of requests was 583 in 2019 vs. 629 in 2020. Skin diagnoses are represented in figure 1.  
59 In “other” diagnoses, 32.1% of these diagnoses (55/171) were COVID-19-related cutaneous lesions,  
60 mostly chilblains (70.9%). Regarding SC, the comparison of institution requests and non-institutions  
61 requests in 2020 vs 2019 are represented in figure 2.

62 ***Second wave (October and November 2020 vs 2019)*** (figure 1 and 2). :

63 The total number of requests was 547 in 2019 vs. 600 in 2020. In “other diagnoses”, 11.4% of these  
64 diagnoses (10/87) were COVID-19-related cutaneous lesions.

65

66 In total, during the first wave, there was significantly fewer concern in skin cancer and more concern in  
67 ‘other’ skin diagnoses, which included COVID-19-related cutaneous signs. Both institutions and non-  
68 institution requests for SC significantly decreased. During the 2<sup>nd</sup> wave, there was no significant  
69 difference in any type of skin diagnosis.

70 During the first pandemic wave, LTCF physicians seemed more concerned about COVID-19 than other  
71 health issues. This is because outbreaks of infection developed rapidly in LTCF<sup>2</sup> and elderly are more  
72 vulnerable to infections and at a higher mortality risk. Since confinement was essential for COVID-19  
73 control<sup>1</sup> and public health endorsed social distancing, less patients consulted their general physicians  
74 (GPs). Moreover, physicians canceled consultations to avoid virus transmission.

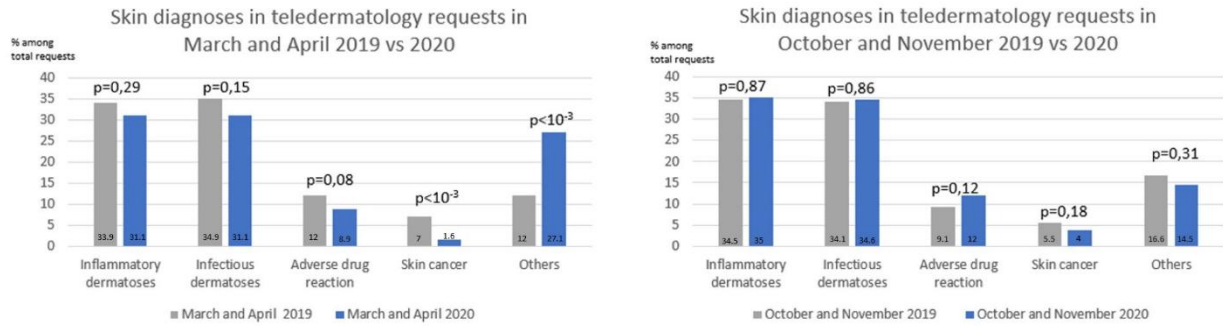
75 During the first wave, there was a decrease of overall in-person oncology referrals<sup>3</sup>. Unexpectedly, even  
76 though access to TD expertise was possible, there was also a decrease in SC requests. The delay in SC  
77 diagnosis was manifested by an increase in Breslow thickness in primary melanomas seen after the first  
78 COVID- 19 lockdown.<sup>4</sup>

79 Shortly after the first pandemic, all healthcare professionals were urged to shift their activity to  
80 telemedicine, which has become a cornerstone for continuity of care.<sup>5</sup> Consultations were less likely to be  
81 canceled. Moreover, a balance was made between medical attention to COVID patients and regular  
82 attention to other patients. Contrary to the persistence of a general decline in skin cancer diagnoses during  
83 the second wave<sup>6,7</sup>, SC diagnosis through TD showed no decrease compared to 2019.

84 Since TD has already shown efficacy in diagnosis and management of SC<sup>8</sup>, it is important for physicians  
85 to scale the use of TD in order to prevent unnecessary in-person visits and help schedule specific  
86 appointments for vulnerable patients. Prompting doctors to use TD for SC diagnosis and SC pathway  
87 organisation would prevent increased morbidity, mortality, and healthcare costs.

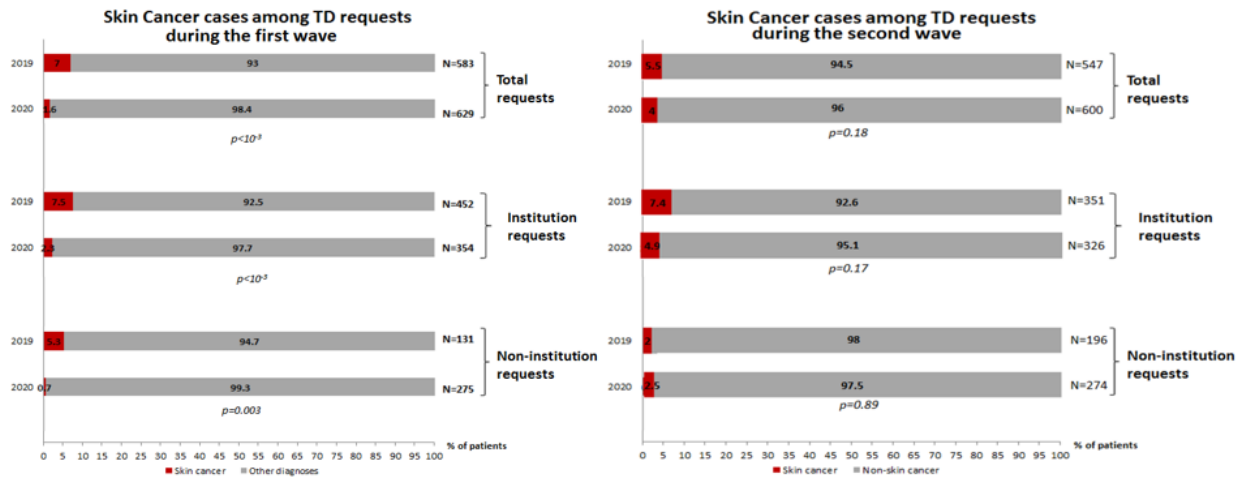
88

89 **Figure 1:**



90

91 **Figure 2:**



92

93

94

95

96

97

98

99

100

101

102

103

104

105

106

107

108

109 **References:**

110

111 1. Skayem, C, et al. “Teledermatology for COVID- 19 Cutaneous Lesions: Substitute or  
112 Supplement?” *Journal of the European Academy of Dermatology and Venereology*, 2020,  
113 doi:10.1111/jdv.16630.

114

115 2. Trabucchi, M., & De Leo, D. (2020). Nursing homes or besieged castles: COVID-19 in northern  
116 Italy. *The lancet. Psychiatry*, 7(5), 387–388. [https://doi.org/10.1016/S2215-0366\(20\)30149-8](https://doi.org/10.1016/S2215-0366(20)30149-8)

117

118 3. Rogado J, Obispo B, Gullón P, Lara MÁ. Impact of the COVID-19 pandemic in cancer diagnosis  
119 in the first and second waves in one of the most affected cancer areas in the city of Madrid

- 120 (Spain). *Int J Cancer*. 2021 Apr 1;148(7):1794-1795. doi: 10.1002/ijc.33462. Epub 2021 Jan 12.  
121 PMID: 33411962.
- 122 4. Ricci F, Fania L, Paradisi A, et al. Delayed melanoma diagnosis in the COVID-19 era: increased  
123 breslow thickness in primary melanomas seen after the COVID-19 lockdown. *J Eur Acad*  
124 *Dermatol Venereol*. 2020;34(12):e778-e779. doi:10.1111/jdv.16874
- 125
- 126 5. Dessinioti C, Garbe C, Stratigos AJ. The impact of the COVID-19 pandemic on diagnostic delay  
127 of skin cancer: a call to restart screening activities. *J Eur Acad Dermatol Venereol*. 2021  
128 Dec;35(12):e836-e837. doi: 10.1111/jdv.17552. Epub 2021 Aug 12. PMID: 34309963; PMCID:  
129 PMC8447214.
- 130
- 131 6. Peacock HM, Tambuyzer T, Verdoodt F, Calay F, Poirel HA, De Schutter H, Francart J, Van  
132 Damme N, Van Eycken L. Decline and incomplete recovery in cancer diagnoses during the  
133 COVID-19 pandemic in Belgium: a year-long, population-level analysis. *ESMO Open*. 2021  
134 Aug;6(4):100197. doi: 10.1016/j.esmoop.2021.100197. Epub 2021 Jun 11. PMID: 34474811;  
135 PMCID: PMC8411068.
- 136
- 137
- 138 7. van Not OJ, van Breeschoten J, van den Eertwegh AJM, Hilarius DL, De Meza MM, Haanen JB,  
139 Blank CU, Aarts MJB, van den Berkmortel FWPJ, de Groot JWB, Hospers GAP, Ismail RK,  
140 Kapiteijn E, Piersma D, van Rijn RS, Stevense-den Boer MAM, van der Veldt AAM,  
141 Vreugdenhil G, Boers-Sonderen MJ, Blokx WAM, Suijkerbuijk KPM, Wouters MWJM. The  
142 unfavorable effects of COVID-19 on Dutch advanced melanoma care. *Int J Cancer*. 2021 Oct  
143 3:10.1002/ijc.33833. doi: 10.1002/ijc.33833. Epub ahead of print. PMID: 34605003; PMCID:  
144 PMC8652896
- 145
- 146 8. Finnane A, Dallest K, Janda M, Soyer HP. Teledermatology for the Diagnosis and Management  
147 of Skin Cancer: A Systematic Review . *JAMA Dermatol*. 2017;153(3):319–327.  
148 doi:10.1001/jamadermatol.2016.4361
- 149
- 150



