

Comparison of patients receiving phototherapy in the dermatology clinic before and after COVID-19 disease

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Abstract

Objective: Comparing patients who received treatment in the phototherapy unit before and after COVID-19 disease

Methods: Patients who started treatment in the phototherapy unit of the dermatology clinic in the 6 months before and after the beginning of the pandemic were retrospectively investigated from the records.

Results: 65 patients started phototherapy in the 6 months before March 11, 2020. 30 of the 65 patients completed their treatment before the pandemic period. Out of the 35 patients receiving phototherapy at the beginning of the pandemic, 30 patients discontinued treatment, 3 patients took a break and started again within 6 months, and 2 patients continued without a break. 20 new patients started phototherapy in the 6 months after March 11, 2020.

Conclusion: With the start of the COVID-19 pandemic, the number of patients receiving phototherapy decreased significantly. It would be appropriate to take measures to reduce disease transmission and continue especially narrowband UVB phototherapy for patients with severe skin diseases

Keywords: COVID-19 Disease; Phototherapy; Skin Diseases; Pandemic; Hospital Application

1. Introduction

COVID-19 disease affected the entire public health throughout the pandemic. Phototherapy is the first treatment option for widespread skin involvement in skin diseases, such as psoriasis, and vitiligo, or life-threatening skin diseases, such as mycosis fungoides [1]. During the COVID-19 disease period, most of the patients with skin diseases were reluctant to go to the hospital due to the risk of contracting the disease. A small number of studies have been found in the literature comparing patients who received phototherapy before and after the start of pandemic [2,3]. Our study aims to investigate the effects of the pandemic on phototherapy.

2. Material and Methods

Patients who started treatment in the phototherapy unit of the dermatology clinic in Izmir Ataturk Training and Research Hospital in the 6 months before and after March 11, 2020 (the date when World Health Organisation declared the novel coronavirus outbreak as a global pandemic) were retrospectively investigated from the records.

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2.1. Ethics committee approval

This study was conducted under the Helsinki criteria after approval by the Izmir Katip Çelebi University Ethics Committee (approval number: 0061, date 15.02.2024).

3. Results

65 patients, 34 female and 31 male, started phototherapy in the 6 months before March 11, 2020. The mean age of the 65 patients was 49.43 with a standard deviation of 20.15 (49.43 ± 20.15). 30 of the 65 patients completed their treatment before the pandemic period, and 30 of the patients discontinued their treatment when the pandemic started. The mean age of the 30 patients who discontinued phototherapy due to the pandemic was 50.2 with a standard deviation 17.35 (50.2 ± 17.35), and the median was 48. Of the remaining 5 patients out of 65, 3 patients took a break and started again within 6 months, and 2 patients continued without a break. 20 new patients, 11 female and 9 male, started phototherapy in the 6 months after March 11, 2020. The mean age of the 20 patients was 47.3 with a standard deviation of 20.73 (47.3 ± 20.73), and the median was 47.5.

The diagnoses of the 30 patients who terminated the treatment at the beginning of the pandemic were as follows: 3 mycosis fungoides, 5 vitiligo, 8 psoriasis, 1 pruritus, 1 pityriasis rubra pilaris, 4 parapsoriasis, 1 cutaneous amyloidosis, 1 PLEVA (pityriasis lichenoides et varioliformis acuta), 1 pityriasis lichenoides chronica, 2 prurigo, 2 perforating dermatosis, 1 pityriasis rosea (Table 1). The 3 patients who started again within the 6 months had lichen planus, cutaneous amyloidosis, and perforating dermatosis. The 2 patients who continued their treatment had mycosis fungoides (Table 2). The diagnoses of the 20 new patients who started phototherapy in the 6 months after the start of the pandemic were as follows: 2 mycosis fungoides, 2 vitiligo, 6 psoriasis, 3 lichen planus, 2 parapsoriasis, 1 pityriasis lichenoides chronica, 1 CGVHD (chronic graft versus host disease), 3 alopecia universalis (Table 3).

Table 1 The diseases of the patients who discontinued phototherapy when the pandemic started

Disease	Frequency	Percent
mycosis fungoides	3	10
vitiligo	5	16.7
psoriasis	8	26.7
pruritus	1	3.3
pityriasis rubra pilaris	1	3.3
parapsoriasis	4	13.3
cutaneous amyloidosis	1	3.3
PLEVA	1	3.3
Pityriasis lichenoides chronica	1	3.3
prurigo	2	6.7
perforating dermatosis	2	6.7
pityriasis rosea	1	3.3
Total	30	100.0

Table 2 The diseases of the patients who continued phototherapy after the start of the pandemic

Disease	Frequency	Percent
mycosis fungoides*	2	40
lichen planus&	1	20
cutaneous amyloidosis&	1	20

perforating dermatosis ^{&}	1	20
Total	5	100.0

*: continued treatment without break; &: continued after a break in the 6 months

Table 3 The diseases of the new patients who started phototherapy in the 6 months after the start of the pandemic

Disease	Frequency	Percent
mycosis fungoides	2	10
vitiligo	2	10
psoriasis	6	30
lichen planus	3	15
parapsoriasis	2	10
pityriasis lichenoides chronica	1	5
chronic graft versus host disease	1	5
alopecia universalis	3	15
Total	20	100.0

4. Discussion

In our study 30 out of 35 (86%) patients discontinued phototherapy when the COVID-19 pandemic started. Phototherapy discontinuance rate (86%) was higher than Fisher et al. study [3], and Chu et al. study [2] which were 53.5% and 60%, respectively. That high rate could be because our hospital was considered a pandemic hospital at the start of the pandemic although patients with diseases other than COVID-19 were also accepted to our hospital to a limited amount.

In Fisher et al. study it was stated that out of 140 patients, 75 (53.5%) discontinued phototherapy. In the study, most patients who chose not to come to phototherapy were stated to have psoriasis and vitiligo; most patients with mycosis fungoides and atopic dermatitis were reported to continue treatment [3]. In Chu et al. study, it was stated that approximately 60% of patients with vitiligo, psoriasis, and atopic dermatitis discontinue phototherapy following the pandemic [2]. It was recommended patients with widespread psoriasis and atopic dermatitis continue to receive phototherapy and switch to UVB instead of PUVA because of immunosuppressive effects of PUVA, patients with vitiligo to switch topical therapy and systemic antioxidants, and patients with generalized parapsoriasis and mycosis fungoides with poor infiltration to continue NB-UVB (narrowband UVB) [4]. In our study, among the disease groups, only 2 patients with mycosis fungoides continued phototherapy without interruption during the pandemic.

Precautions to be taken in the phototherapy unit were stated as follows: preservation of social distance, COVID-19 symptoms evaluation, obligatory use of face masks, hand sanitizer application before and following entry into the phototherapy unit, disinfection of the phototherapy unit after each patient, scheduling patient appointments at least 25-30 minutes apart [5]. Home-based phototherapy, PUVAsol, or handheld NB-UVB devices were recommended [5]. Thalassotherapy (seawater therapy) and high mountain climate therapy were recommended to be used to treat psoriasis, vitiligo, and atopic dermatitis during the COVID-19 period [6]. In our study, while the average age of patients who discontinued phototherapy with the onset of the pandemic was 50.2, the average age of patients who started using phototherapy in the first 6 months after the pandemic was 47.3. This may be due to patients' concerns that as age increases their COVID-19 disease will become more severe if they contract the disease.

Daily ultraviolet index and COVID-19-related deaths were compared in 152 countries and authors found evidence of UVB radiation protection from COVID-19 deaths due to vitamin D synthesis, and recommended clinical studies [7]. UVB induces vitamin D synthesis in the skin [8], and UVB phototherapy could be effective in protecting against severe COVID-19.

5. Conclusion

Most of our patients discontinued phototherapy. Narrowband UVB phototherapy seems appropriate to be used in the treatment of the skin diseases after taking precautions against transmission of COVID-19.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest is to be disclosed.

Statement of ethical approval

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Izmir Katip Çelebi University Ethics Committee (approval number: 0061, date 15.02.2024).

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

- [1] Branisteanu, Daciana Elena et al. "Phototherapy in dermatological maladies (Review)." *Experimental and therapeutic medicine* vol. 23,4 (2022): 259.
- [2] Chu, Kuan-Yu, and Cheng-Che E Lan. "The impact of the COVID-19 surge on phototherapy in Taiwan: Focusing on the patient profile, adherence, and attitude before and after the surge." *Skin research and technology : official journal of International Society for Bioengineering and the Skin (ISBS) [and] International Society for Digital Imaging of Skin (ISDIS) [and] International Society for Skin Imaging (ISSI)* vol. 29,4 (2023): e13314.
- [3] Fisher, S, and M Ziv. "COVID-19 effect on phototherapy treatment utilization in dermatology." *The Journal of dermatological treatment* vol. 33,2 (2022): 789-791.
- [4] Pacifico, A et al. "Phototherapeutic approach to dermatology patients during the 2019 coronavirus pandemic: real-life data from the Italian red zone." *The British journal of dermatology* vol. 183,2 (2020): 375-376
- [5] Chatterjee, Manas, and Anupam Das. "Management of Vitiligo Amidst the COVID-19 Pandemic: A Survey and Resulting Consensus." *Indian journal of dermatology* vol. 66,5 (2021): 479-483.
- [6] Dourmishev, Lyubomir, and Dimitrina Guleva. "Ultraviolet diagnostic and treatment modalities in the coronavirus disease 2019 pandemic." *Clinics in dermatology* vol. 39,3 (2021): 446-450.
- [7] Moozhipurath, Rahul Kalippurayil et al. "Evidence of protective role of Ultraviolet-B (UVB) radiation in reducing COVID-19 deaths." *Scientific reports* vol. 10,1 17705. 19 Oct. 2020
- [8] Sage, Robert J, and Henry W Lim. "UV-based therapy and vitamin D." *Dermatologic therapy* vol. 23,1 (2010): 72-81.