


SHORT PAPER

Emergency accesses in Dermatology Department during the Covid-19 pandemic in a referral third level center in the north of Italy

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Abstract

During the lockdown period, most planned visits have been postponed and the number of accesses to emergency department (ED) has dramatically reduced. The aim of our study is to analyze the impact of the lockdown on the number, type, and severity of Dermatological ED diagnosis. We performed a retrospective review of all dermatological consultations in the ED of IRCCS San Matteo during the lockdown period in Italy (February 22-May 3 2020) and compared them with those from the same period in 2019. We noticed a sharply reduction in the number of dermatological consultations requested in the ED: from 164 patients in 2019 to 33 in 2020. Some diagnostic categories showed a significant difference with a higher incidence of vasculopathic lesions (0.6% vs 12.1%, $P < .0001$), urticarial rashes (8.5% vs 21.2%, $P = .03$), and scabies (3% vs 12.1%, $P = .023$). We observed an increase in the proportion of patients starting medications, before coming to the ED 26.2% in 2019 vs 66.7% in 2020 ($P < .001$). Furthermore, we noticed a significant increase in the average complexity of cases presenting to the ED in 2020, as proven by the increased need for biopsies and systemic therapy.

KEYWORDS

Covid-19, dermatology, emergency consultations, emergency department, SARS-CoV-2

1 | INTRODUCTION

The severe acute respiratory syndrome coronavirus (SARS-CoV-2) has put emergency services under heavy strain all over the world and in particular in the north of Italy. Since February 21, 2020, when the first case in Italy was confirmed, an overwhelming number of SARS-CoV-2 infections were detected and hospital organizations have adapted to cope with the emergency.^{1,2}

Fondazione IRCCS Policlinico San Matteo, Pavia, a tertiary center and teaching hospital in Northern Italy, became a national SARS-CoV-2 referral center. It was one of the first institutions to enact separate routes for suspected SARS-CoV-2 patients referring to the emergency department (ED) in order to isolate them from other patients,

minimizing the risk of contamination of the general ED.³ From February 22 to May 3, accesses to the ED have dramatically reduced, also for dermatological consultations.⁴⁻⁶ The aim of our paper was to analyze how the lockdown period has changed dermatological accesses to the ED and analyze the differences in dermatological consultations at ED between February 22 to May 3, 2020 and the same period in 2019.

2 | MATERIALS AND METHODS

We performed a retrospective review of all dermatological consultations in the ED of IRCCS San Matteo between February 22 (date of the first proven autochthonous Covid-19 case) and May 3 (date of the

end of the "phase 1" of the lockdown). We compared these data with those from the same period in 2019. We extracted data from medical records of all patients admitted to the ED for dermatological consultation and stored them in a database; the data was then entered in an Excel spreadsheet (Microsoft Corporation, Seattle, Washington).

We collected demographic data and data regarding clinical diagnosis, prescription of topical or systemic therapy, need to execute a biopsy, scheduling of a follow-up visit, and administration of any kind of therapy before the consultation.

Diagnosis was considered definitive if clinically determined without a differential diagnosis or if confirmed by biopsy or other exams. To handle data more efficiently, all diagnoses were classified into 16 groups (Table 1).

Our aim was to evaluate the impact of the ongoing pandemic on the number of dermatological ED consultation, on the severity of cases presented to the ED with cutaneous symptoms, and on the diagnoses at discharge.

The median number of urgent consultations per week was compared between 2019 and 2020 using Mann-Whitney test. All other data related to clinical presentation and management in the ED were compared between 2019 and 2020 with chi-square test.

3 | RESULTS

We collected 197 patients who required a dermatological consultation: 164 patients from February 22 to May 3 2019, 33 in the same period in 2020. Median number per week was 13 in 2019 and 2.5 in 2020 ($P = .002$).

In 2019, 78 (47.6%) were females, and 86 (52.4%) were males. In 2020, 12 (36.4%) were females, and 21 (63.6%) were males ($P = .24$). The average age was 44.7 ± 23.7 years in the 2019 cohort, and 44.5 ± 25.7 years in the 2020 cohort.

The relative frequency of the diagnoses on the whole was significantly different in the two cohorts ($P < .003$). In the 2019 cohort, the most frequent consultation causes were eczema and dermatitis ($n = 27$, 16.5%) and acute infections ($n = 25$, 15.2%). In the 2020 cohort, urticarial rashes were the most common cause of presentation ($n = 7$, 21.2%), followed by acute eczema and infectious diseases ($n = 5$ for both, 15.2% each).

The difference in relative frequencies of diagnoses between the two cohorts was statistically significant for urticarial manifestations (8.5% in 2019 and 21.2% in 2020) ($P = .03$), for scabies (3% in 2019 and 12.1% in 2020) ($P = 0.023$) and for vasculopathic lesions (0.6% in 2019 and 12.1% in 2020) ($P < .0001$) (Table 1).

In 2020, 22 (66.7%) patients had already started a therapy before the access in ED, either self-administrated or prescribed by the family doctor. In 2019, the majority of patients (121, 73.8%) came without a previous therapeutic approach ($P < .001$).

Concerning the prescription of drugs as a result of the consultation, topical therapy was prescribed in 136/164 (82.9%) patients in 2019, and in 30/33 (90.9%) patients in 2020 ($P = .251$). Systemic therapy was prescribed in 111/164 (67.7%) patients in 2019, and in 28/33 (84.8%) patients in 2020 ($P < .05$). After the consultation, a follow-up visit was scheduled in 68/164 cases (41.5%) in 2019, and 17/33 cases (51.5%) in 2020 ($P = .287$). A biopsy was deemed necessary in 6/164 (3.7%) patients in 2019 and 5/33 (15.1%) patients in 2020 ($P < .01$).

TABLE 1 Dermatological consultations in the ED of IRCSS San Matteo during the lockdown period in Italy between February 22 and May 3 2020 and the same period in 2019, classified into diagnostic groups

Diagnostic category	2019 (n = 164)		2020 (n = 33)		P-value
	n	%	n	%	
(i) Unspecific or undetermined	11	6.7	2	6.1	Ns
(ii) Atopic eczema and dermatitis	27	16.5	5	15.1	Ns
(iii) Acute-onset infections	25	15.2	5	15.1	Ns
(iv) Subacute or chronic infections	12	7.3	0	0	Ns
(v) Urticaria/angioedema and urticarial rash	14	8.5	7	21.2	.031
(vi) Sexually transmitted diseases	4	2.4	0	0	Ns
(vii) Autoimmune diseases	1	0.6	1	3	Ns
(viii) Burns and other physical and chemical injuries to the skin	22	13.4	3	9.1	Ns
(ix) Insect bites	5	3.1	1	3	Ns
(x) Benign tumors	7	4.3	0	0	Ns
(xi) Malignant tumors	4	2.4	0	0	Ns
(xii) Psoriasis	5	3.1	0	0	Ns
(xiii) Acneiform/rosaceiform rashes	4	2.4	0	0	Ns
(xiv) Scabies	5	3.1	4	12.1	.023
(xv) Drug-related rash and paraviral exanthemas	17	10.4	1	3	Ns
(xvi) Vasculopathic lesions	1	0.6	4	12.1	<.0001

Note: Ns, not statistically significant.

4 | DISCUSSION

The first finding emerging from our data was a dramatic reduction in the request for dermatological ED consultations during the COVID pandemic comparing to the same period in 2019, from 164 patients to 33, with an absolute difference of -79.9 percentage points (Table 1). This result is consistent with the experience of other medical specialties in different centers⁴⁻⁸ and it probably reflects the fear of both being infected in the hospital environment and of violating lockdown restrictions. The data showed an increase in the proportion of patients starting medications before coming to the ED. This result confirmed our hypothesis that patients were delaying noncritical care.

We noticed a rise in the frequency of biopsy requests ($P < .01$) and in the prescription of systemic therapy ($P > .05$) as a result of the consultation. This suggested an increased average complexity in the cases presenting to the ED for a skin condition in 2020 compared to the control year.

In 2019, the most common skin diseases were eczematous disorders ($n = 27$, 16.5%), infectious diseases ($n = 25$, 15.2%), and physical and chemical injuries to the skin ($n = 22$, 13.4%), confirming the findings from similar studies in the past.^{9,10} In 2020, all these categories were less frequent. A few diagnostic categories showed significant difference in terms of incidence: scabies (3% vs 12.1%, $P = .023$), urticarial rashes (8.5% vs 21.2%, $P = .03$), and vasculopathic lesions (0.6% vs 12.1%, $P < .0001$). For scabies, it is reasonable to believe that spending prolonged periods of time in close proximity with relatives might have increased the risk of contracting the infection. Regarding the other two diagnostic categories, both cutaneous reactions have been described to correlate with the ongoing pandemic in the most recent literature.¹¹⁻¹³

A limitation of this study is the small sample size for the current year; nevertheless, it reflects the reality of the recent period and it is an interesting finding by itself, despite the fact that it limits the statistical power of our analysis. Another limitation lies in the unavailability of serological testing for Covid-19 in patients presenting an atypical rash or acroischemia due to protocol restrictions on serological procedures.

In conclusion, our analysis showed that the coronavirus epidemic sharply reduced the number of dermatological consultations requested in the ED. However, the complexity of cases was higher, as proven by the increased need for biopsies and systemic therapy. This may highlight how often, in normal times, the ED is used for deferrable pathologies. We do not exclude that the reduction in consultations in the current period may lead to a possibly higher number of requests for dermatological visits after the lockdown, to a higher delay in diagnosis and a possible increase in morbidity and mortality.¹⁴ Finally, the types of cutaneous disorders diagnosed in the ED was different, with a higher relative frequency of scabies, urticarial rashes, and vasculopathic lesions.

CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

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