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Evaluation of Rashes Among Patients Testing Positive for COVID-19 in an UrbanEmergency Department

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Evaluation of Rashes in Patients Diagnosed with COVID-19

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Introduction

- SARS-CoV-2 virus emerged in the United States in early 2020 causing a pandemic of respiratory illness. While respiratory and flu-like symptoms are well-known, other cutaneous findings such as maculopapular lesions, purpura, pruritic lesions, urticaria, acral lesions and chilblain are not.
- As a novel virus, it is important to document any COVID-related associations, as they may serve as a diagnostic, epidemiological, or prognostic markers of disease, and fill in gaps in our current understanding of COVID.
- We aim to identify the types of cutaneous manifestations among patients who tested positive for COVID in the ED, and to identify which groups are more associated with these manifestations.

Methods

- This was a retrospective chart review of the medical record to identify patients meeting study criteria. We queried the electronic medical records to identify patients testing positive COVID-19 between March 1, 2020, and May 31, 2021.
- Basic demographics were collected, including age, gender, race, and ethnicity. We also collected associated COVID symptoms and whether the patient was admitted to the hospital due to COVID-related symptoms. The medical records were reviewed to identify patients with a secondary diagnosis of rash. Data analysis was carried out using SAS 9.4.

(1)

(2)

(3)

1. Intraepidermal vesicle filled with plasma
2. Urticaria
3. Covid Toes

Rash Type of COVID Positive Patients

Rash Type by Frequency				
Rash Description	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	1	12.50	1	12.50
2	3	37.50	4	50.00
3	1	12.50	5	62.50
4	1	12.50	6	75.00
5	1	12.50	7	87.50
7	1	12.50	8	100.00

Secondary Rash Type by Frequency				
Rash Description	Frequency	Percent	Cumulative Frequency	Cumulative Percent
6	1	33.33	1	33.33
8	2	66.67	3	100.00
Frequency Missing = 5				

Rash Description
1= Maculopapular
2= Urticaria
3= Purpura
4= Pruritic
5= Chilblains/ COVID Toes
6= Dermatitis
7= Bullous
8=Erythema

Race and Ethnicity of Patients with Dual Diagnosis

Race
Black or African American=1
White or Caucasian= 2
Other= 3
Mixed= 4

Race				
Race	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	3	37.50	3	37.50
2	2	25.00	5	62.50
3	2	25.00	7	87.50
4	1	12.50	8	100.00

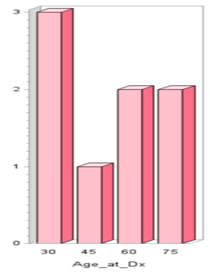
Ethnic Group
Hispanic=1
Non-Hispanic=2

Ethnic Group				
Ethnic Group	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	3	37.50	3	37.50
2	5	62.50	8	100.00

Sex and Age of Patients with Dual Diagnosis

Sex
1=Male
2=Female

Sex of Patients with Dual Diagnosis				
Sex	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	2	25.00	2	25.00
2	6	75.00	8	100.00



Age at Time of Diagnosis

Analysis Variable: Age at Diagnosis						
N	Mean	Std Dev	Minimum	Median	Maximum	Quartile Range
8	52.000	22.960	23.000	53.000	82.000	39.500

Conclusions

- While our sample size was small; we can make some observations. Non-Hispanic females were more impacted. A dual diagnosis of COVID-19 and rash was uncommon, as compared to literature.
- These findings may be due to decreased awareness of rash as a symptom of COVID-19 and lack of documentation of cutaneous findings when evaluating the patients in the Emergency Department– underdiagnosis was likely due to efforts focused on more acute issues.
- Data collection will be continued to increase the sample size and complete more statistical analyses.

References

1. British Association of Dermatologists. (2020, September 21). *Home: Covid-19 skin conditions*. Covid. Retrieved October 14, 2021, from https://covidskinsigns.com/.
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