

# Evaluation of Rashes in Patients Diagnosed with COVID-19

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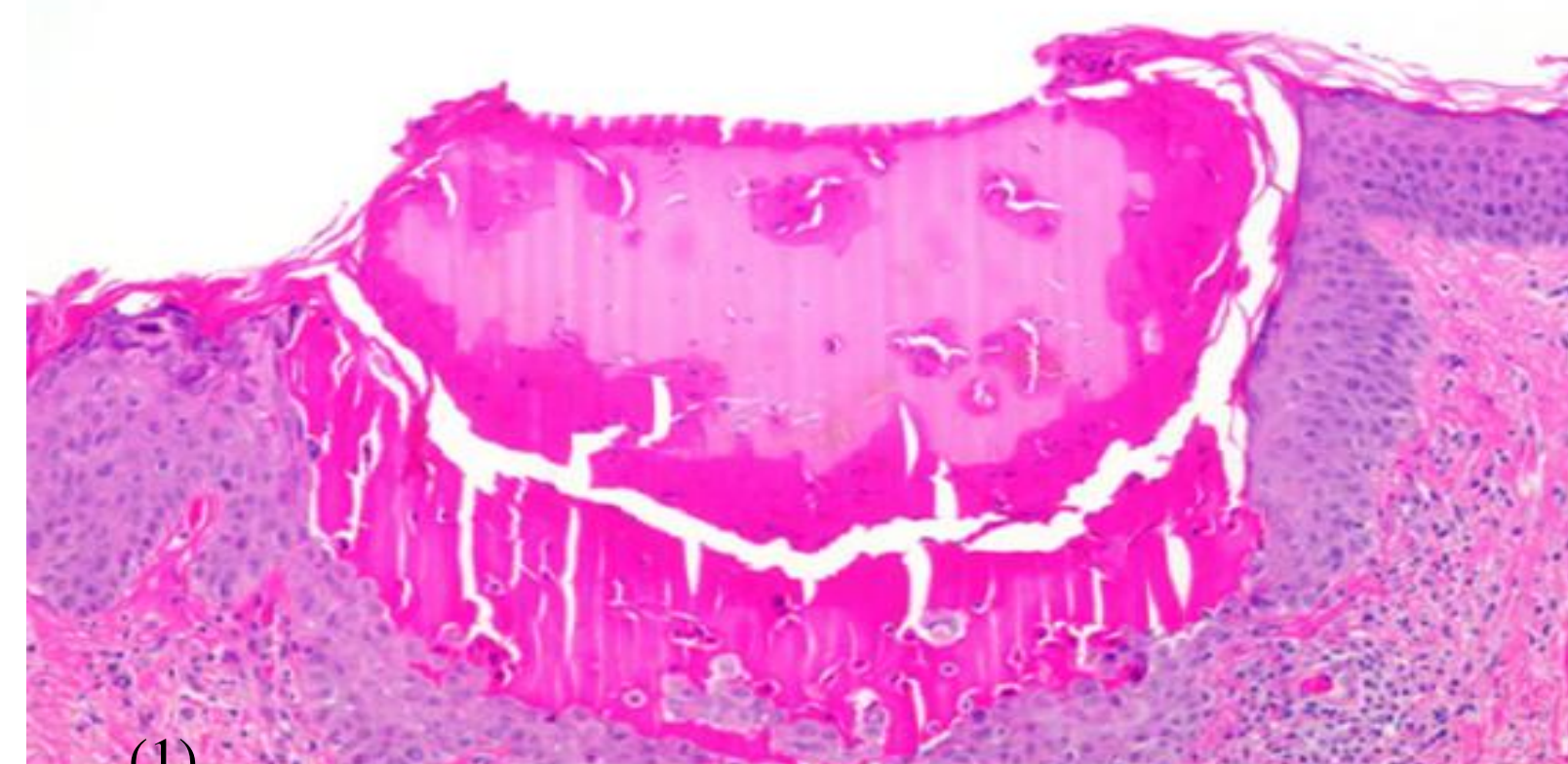
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## Introduction

- 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. 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

### Rash Description

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

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

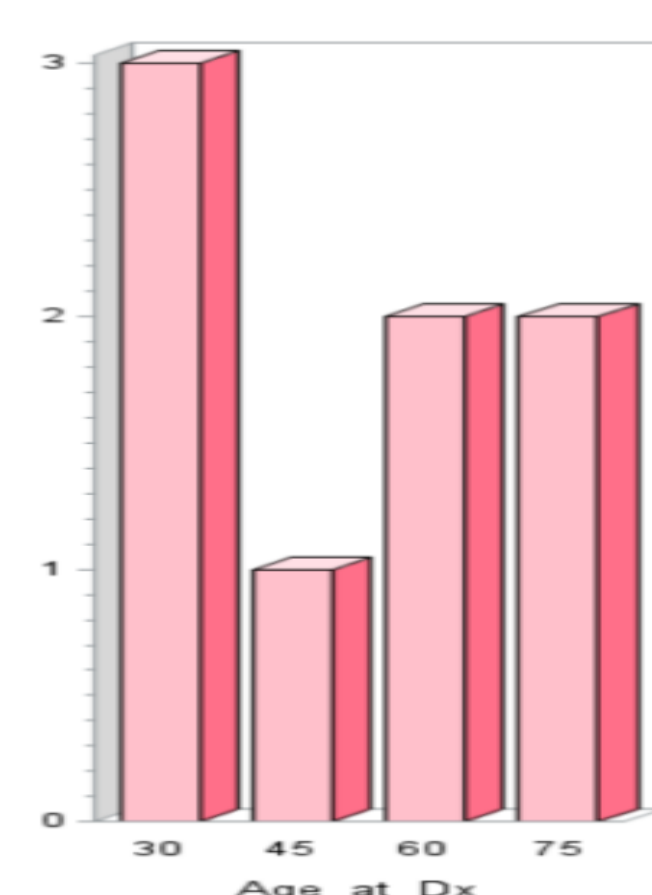
Frequency Missing = 5

## 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	52.00	22.960	23.000	53.000	82.000	39.500

## 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

## 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/>.
2. Llamas-Velasco, M., Chicharro, P., Rodríguez-Jiménez, P., Martos-Cabrera, L., De Argila, D., Fernández-Figueras, M., & Fraga, J. (2020). Comment on 'clinical and histological characterization of vesicular COVID-19 rashes: A prospective study in a tertiary care hospital'. Pseudoherpetic Grover disease seems to occur in patients with Covid-19 infection. *Clinical and Experimental Dermatology*, 45(7), 896–898. <https://doi.org/10.1111/ced.14305>