

# MULTICENTER RETROSPECTIVE STUDY EVALUATING THE CLINICAL PICTURE AND OUTCOME OF THE SARS-CoV-2 INFECTION AMONG PATIENTS WITH GLOMERULAR DISEASES

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# Introduction



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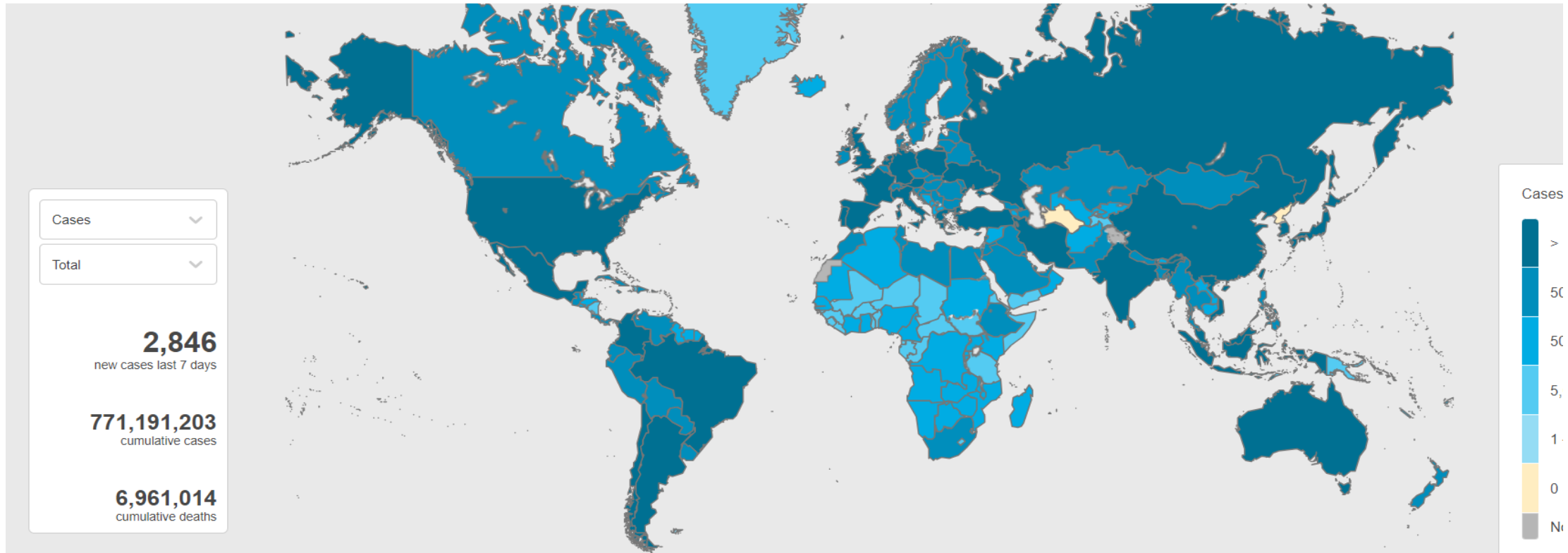
Overview

Measures

Table View

Data

More Resources



<https://covid19.who.int>

# Aim

- This is a retrospective study exploring the **clinical picture and outcome of SARS-CoV-2 infection** in patients with glomerular diseases (GD) and
- Its possible impact in the **probability of relapse of the GD.**

# Methods

- Retrospective study
- 11 different research centers in Greece
- 312 patients

# Methods

## Inclusion criteria

- Age >18 years
- Biopsy proven GD
- Documented SARS-CoV-2 infection

## Exclusion criteria

- ESKD before SARS-CoV-2 infection diagnosis

# Methods

## Glomerular Diseases

- Age at diagnosis
- Gender
- Histopathological diagnosis
- Past medical history
- Immunosuppression at diagnosis (induction and maintenance treatment)
- Type of immunosuppression
- 1<sup>st</sup> outcome (Remission/ treatment resistant)

## SARS-CoV-2 Infection

- Reason for testing
- Type of symptoms
- Time (months) from biopsy to SARS-CoV-2 infection
- Status of GD at the time of SARS-CoV-2 infection
- COVID-19 outcome
- Post-COVID-19 GD outcome
- Time to relapse (weeks) from SARS-CoV-2 infection

# GLOMERULOPATHIES:

## ANCA-GN

**Complete remission**: no evidence of active disease – negative urine sediment – no more need for dialysis

**Partial remission**: consistent hematuria despite improved renal function ( $cr_s$ )

**Relapse**: proof of activity in any system

## Lupus-GN

**Remission**: proteinuria  $<0.5g/24h$ , stabilization of  $cr_s$  and improved haematuria

**Relapse**: Reappearance of hematuria, with or without red blood cells casts, wbc in urine sediment without evidence of infection, increased proteinuria, with or without impaired renal function (increase of serum creatinine)

## Minimal Change Disease (MCD)

**Complete remission** : proteinuria  $<300$  mg/d, stable value of  $cr_s$  and  $Alb_s >3.5$  g/dL

**Partial remission**: decrease of proteinuria  $>50$  %, between 300 mg and 3.5 g/d

**Relapse**: proteinuria  $> 3.5$  g/d

## Membranous nephropathy (MN)

**Complete remission** : proteinuria  $<300$ mg/d and  $Alb_s \geq 3.5$  g/dL

**Partial remission**: decrease of proteinuria  $\geq 50$  % and proteinuria between 0.3 and 3.5 g/d

**Relapse**: proteinuria  $> 3.5$  g/d

## Focal segmental glomerulosclerosis (FSGS)

**Complete remission**: proteinuria  $<300$  mg/d, stable value of  $cr_s$  and  $Alb_s >3.5$  g/dL

**Partial remission**: decrease of proteinuria  $>50$  %, with values between 300 mg and 3.5 g/d, with or without improvement in  $Alb_s$

**Relapse**: proteinuria  $> 3.5$  g/d in patients with complete remission, or an increased proteinuria  $>50\%$  in patients with partial remission

## IgA nephropathy

**Remission** proteinuria  $<1g/24h$ , no hematuria

**Relapse**: proteinuria  $>1g/24h$ , eGFR impairment

# Outcomes of SARS-CoV-2 infection- Definitions

- **Recovery** was defined as the complete and permanent relief of symptoms accompanied by release from the need for oxygen therapy and hospitalization and administration of specific or non-specific treatment
- **Long-COVID** was defined as the presence of symptoms (physical and/ or mental) for a period of time greater than 2 months from the beginning of the infection.
- **Death**



# Results

- 312 patients were included
- 214(68,5%) had a positive test for SARS-CoV-2 during the follow up time, while 98 were not.

# Results

- Infected patients were younger compared to those not infected [44 (28-59.75) vs. 53 (38-64) years,  $p < 0.001$ ]
- The mean time from the diagnostic biopsy to the SARS-CoV-2 infection was 67,6 ( $\pm 59,3$ ) months

# Results

- 82,5% had been vaccinated against SARS-CoV-2
- 49,1% were on immunosuppressive therapy at vaccination

# SARS-CoV-2 Infection hospitalization

- 28(13%) required admission to hospital
- Median length of stay in hospital was 8,3( $\pm$ 5,1) days

# SARS-CoV-2 Outcome

- 84,2% experienced complete recovery of the infection
- 24(11%) had symptoms for more than 3 months (long-COVID)
- 4(1,9%) died due to Covid-19

# GD relapse after SARS-CoV-2 infection

- Among patients in remission for the GD, the frequency of the GD relapse was higher in infected patients versus those not infected

(11.9% vs. 2.1 %,  $p=0.007$ ).

# Conclusions

- According to our findings, SARS-CoV-2 infection appears to have an **impact** in patients with GD, related to **morbidity**.
- SARS-CoV-2 infection **may increase the probability of relapse** of the primary glomerular disease.

Thank you for your attention!