

## INTRODUCTION

- Cytomegalovirus is a double-stranded DNA herpesvirus found in both industrialized and economically developing countries.
- Those infected have a wide array of manifestations.
- Severe CMV infections in immunocompetent patients have a prevalence of 1 in 50,000 hospitalized patients and 1 in 1 million in the general population.

## INITIAL PRESENTATION

- 29-year-old female without significant past medical history
- CC: Abdominal pain and flu-like symptoms for 2 weeks.
- ED Course: Pt found to have normocytic anemia, hyponatremia, elevated D-dimer, elevated transaminases, and elevated creatinine. Abdominal CT revealed multiple splenic infarcts for which an intravenous heparin infusion was initiated; patient was admitted to the service of Internal Medicine and consults to Gastroenterology and Hematology were placed.

## HOSPITAL COURSE

### DAY 2:

Hematologic workup significant for positive ANA and acute cytomegalovirus viremia. Hyponatremia began to worsen despite guideline-based therapy. Nephrology and Infectious Disease consulted.

### DAY 5:

Renal function began to decline (Cr 0.9 to 2.9 overnight), CRP elevated. Further autoimmune workup and SPEP negative.

### DAYS 6-9:

Renal function continued to worsen, Cr 10.0 by HD9. CMV-induced FSGS suspected and patient went for renal biopsy.

### DAY 10 - Discharge:

Cr reached max of 12.9. HD was initiated with marked improvement of renal and hepatic function. Biopsy confirmed collapsing FSGS. She was discharged home with OAC, ganciclovir, and plans for continued HD outpatient.

## DISCUSSION/CONCLUSION

- Clinical manifestations of CMV in immunocompetent patients are linked to multi-organ complications, including neurologic, cardiovascular, and pulmonary systems.
- CMV-induced FSGS is not well-documented in immunocompetent patients and warrants further investigation.
- Possible explanations of how a young and healthy individual contracted such severe manifestations of this infection could involve an unknown genetic predisposition or an exaggerated immune response
- This patient's case underscores the importance of considering CMV testing in patients with unexplained AKI.

## REFERENCES

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2. Gupta M, Shorman M. Cytomegalovirus. 2023 Aug 8. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. PMID: 29083720.
3. Grover V, Gaiki MR, DeVita MV, Schwimmer JA. Cytomegalovirus-induced collapsing focal segmental glomerulosclerosis. Clin Kidney J. 2013 Feb;6(1):71-73. doi: 10.1093/ckj/sfs097. Epub 2012 Sep 7. PMID: 27818753; PMCID: PMC5094397.