IMPLICACIONES CLÍNICAS DE LA LESIÓN RENAL AGUDA, SU RELACIÓN CON EL GRUPO ETARIO Y LA MORTALIDAD EN ADULTOS CRÍTICAMENTE ENFERMOS CON INFECCIÓN POR SARS-COV-2 DURANTE EL AÑO 2021

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RESUMEN

La lesión renal aguda es una manifestación grave en pacientes con COVID-19. En pacientes hospitalizados con SARS-CoV-2 la incidencia alcanza hasta el 16%. Su presencia se relaciona a un marcador de gravedad de la enfermedad y un factor pronostico negativo para la supervivencia de los pacientes que ingresan a la unidad de cuidados intensivos. **Objetivo**: El objetivo de nuestro trabajo fue evaluar las implicaciones clínicas de la lesión renal aguda, su relación con el grupo etario y la mortalidad en adultos críticamente enfermos con infección por SARS-CoV-2. **Materiales y métodos**: Esta investigación fue de tipo analítico, correlacional, retrospectivo. Se incluyo pacientes mayores de 18 años con neumonía por SARS-CoV-2, ingresados a la unidad de cuidados intensivos en Barranquilla (Colombia) entre enero y diciembre del año 2021. Se dividieron según la presencia de lesión renal aguda y se caracterizo acorde a la edad. Según el grupo etario los pacientes se dividieron en pacientes adultos (21 – 44 años), adultos de edad mediana (45 – 65 años) y adultos de edad avanzada (>65 años). Los datos se evaluaron mediante regresión logística univariada. La mortalidad se determinó a través cocientes de riesgos instantáneos (HR) con intervalos de confianza al 95%. **Resultados:** Se incluyeron 199 pacientes. La presencia de lesión renal aguda fue 59.8%. Al evaluar la prevalencia de la lesión renal aguda según los grupos etarios, se observa que el 18.5% (n = 22) corresponde a pacientes entre 21 - 44 años, el 42.9% (n = 51) entre 45 – 65 años y el 38.7% (n = 46) >65 años. En nuestros resultados, no se encontraron pacientes entre edades de 18 a 20 años con neumonía por SARS-CoV-2 admitidos a la unidad de cuidados intensivos. Según la clasificación KDIGO de LRA el estadio III fue el más predominante en los grupos estadios evaluados (21 – 44 años [n =54.5%], 45 – 65 años [54.9%] y >65 años [69.6%]). Los pacientes con lesión renal aguda presentaron APACHE II elevado, presencia de diabetes mellitus (27.6%), necesidad de ventilación mecánica invasiva (75.4%), aminas vasoactivas y altos niveles de ferritina y lactato deshidrogenasa. La presencia de lesión renal aguda no influyo en un riesgo de mortalidad (HR = 1.73: IC 95% [1.12 – 2.68]; p = 0.013). **Conclusiones:** En este estudio retrospectivo encontramos una alta

incidencia de lesión renal aguda que afectó con más frecuencia a pacientes con edades entre 45 – 65 años hospitalizados con neumonía grave por SARS-CoV-2. La presencia de APACHE II elevado, condiciones clínicas como la diabetes mellitus, enfermedad renal crónica, la necesidad de ventilación mecánica invasiva, vasoactivo o inotrópicos tuvo un impacto en la presencia de lesión renal aguda. Además, se encontró que niveles elevados de ferritina, lactato deshidrogenasa, creatinina sérica y nitrógeno ureico a la admisión se asociaron estadísticamente con la presencia de lesión renal aguda. No obstante, al evaluar los grupos etarios, y la presencia de lesión renal aguda no influyó con la mortalidad durante el curso de la hospitalización.

Palabras clave: Lesión renal aguda; grupo etario; SARS-CoV-2; Críticamente enfermos.

ABSTRACT

Acute kidney injury is a severe manifestation in patients with COVID-19. In hospitalized patients with SARS-CoV-2, the incidence reaches up to 16%. Its presence is related to a marker of disease severity and a negative prognostic factor for the survival of patients admitted to the intensive care unit. **Objective:** The objective of our work was to evaluate the clinical implications of acute kidney injury, its relationship with age group, and mortality in critically ill adults with SARS-CoV-2 infection. **Materials and methods:** This research was analytical, correlational, and retrospective. Patients over 18 years of age with SARS-CoV-2 pneumonia admitted to the intensive care unit in Barranquilla (Colombia) between January and December 2021 were included. They were divided according to the presence of acute kidney injury and characterized according to age. According to the age group, patients were divided into adult patients (21-44 years), middle-aged adults (45-65 years), and elderly adults (>65 years). Data were evaluated by univariate logistic regression. Mortality was determined through hazard ratios (HR) with 95% confidence intervals.

Results: 199 patients were included. The presence of acute kidney injury was 59.8%. When evaluating the prevalence of acute kidney injury according to age groups, it is observed that 18.5% (n = 22) corresponds to patients between 21 - 44 years, 42.9% (n = 51) between 45 - 65 years, and 38.7% (n = 46) >65 years. In our results, no patients between the ages of 18 and 20 years with SARS-CoV-2 pneumonia admitted to the intensive care unit were found. According to the KDIGO classification of AKI, stage III was the most predominant in the evaluated stage groups (21 – 44 years [n = 54.5%], 45 – 65 years [54.9%], and >65 years [69.6%]). Patients with acute kidney injury had elevated APACHE II, the presence of diabetes mellitus (27.6%), the need for invasive mechanical ventilation (75.4%), vasoactive amines, and high levels of ferritin and lactate dehydrogenase. The presence of acute kidney injury did not influence the mortality risk (HR = 1.73: 95% CI [1.12 – 2.68]; p = 0.013). **Conclusions:** In this retrospective study, we found a high incidence of acute kidney injury that more frequently affected patients between the ages of 45 – 65 years hospitalized with severe SARS-CoV-2 pneumonia. The presence of elevated APACHE II, clinical conditions such as diabetes mellitus, CKD, the need for invasive mechanical ventilation, and vasoactive or inotropic agents had an impact on the presence of acute kidney injury. In addition, elevated levels of ferritin, lactate dehydrogenase, serum creatinine, and urea nitrogen on admission were statistically associated with acute kidney injury. However, when evaluating the age groups, the presence of acute kindey injury did not influence mortality during hospitalization.

Key Words: Acute kidney injury; age groups; SARS-CoV-2; critically ill

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