HIPERTENSIÓN PULMONAR SECUNDARIA A SEPSIS EN EL NEONATO

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RESUMEN

La hipertensión pulmonar es un síndrome de falla respiratoria aguda caracterizado por elevación sostenida de las resistencias vasculares pulmonares (RVP), que produce hipertensión persistente de la arteria pulmonar después del nacimiento, que ocasiona cortocircuito extrapulmonar de derecha a izquierda de sangre no oxigenada a través del conducto arterioso (CA) y foramen oval (FO) con hipoxemia severa y acidosis secundaria. La hipertensión pulmonar secundaria a sepsis (HTP-S) es una de las complicaciones de mayor preocupación en los neonatos por las implicaciones que puede conllevar a corto, media y largo plazo, algunas incluso pudiendo a comprometer la vida del niño, por los compromisos a nivel renal, cardiaco y evidentemente respiratorio. La HTP-S puede explicarse por varios mecanismos; ejemplo: gérmenes comunes en la etapa neonatal como (*Streptococcus* del grupo B y bacterias gramnegativas), liberan endotoxinas bacterianas desencadenando una respuesta inflamatoria secundaria, con liberación de tromboxano endotelial y de varias citoquinas (como el factor de necrosis tumoral-alfa) que lleva a un aumento en las resistencias vasculares pulmonares. Aunque la HTP es una causa frecuente de ingreso a la Unidad de Cuidados intensivos neonatales, la causa que termina en hipertensión pulmonar puede pasar desapercibida ya sea por poca asociación a la patología o por su baja frecuencia, como es el caso de la HTP secundaria a sepsis, considerada como un desafío debido a la dificultad de identificar a los recién nacidos en riesgo de sepsis, especialmente a los que tienen un buen aspecto general.

Objetivo: Caracterización de la Hipertensión Pulmonar secundaria a Sepsis en el Neonato en una Unidad de Cuidados Intensivos Neonatales en Barranquilla (Atl, CO) entre los años 2021 – 2022.

Metodología: Se realizó un estudio tipo analítico, cuantitativo, retrospectivo. Se utilizó estadística descriptiva, se hicieron test de chi cuadrado y Exacto de Fisher para establecer las relaciones entre variables. Se llevo a cabo en una unidad de cuidados intensivos neonatales de la ciudad de Barranquilla.

Resultados: Se recolectaron en total 50 pacientes con diagnóstico de HTP-S. La edad global fue de 7,14 (IC 3.74 – 8.74) días, sin diferencia entre sexos (p > 0.05). El 52% de los pacientes tuvieron una edad gestacional a término. El 62% presentó HTP-S. Los pacientes prematuros tardíos y a término fueron lo que más presentaron HTP-S. Se encontró una asociación directamente proporcional entre el SDR y la HTP-S (p: 0). La manifestación más frecuente fue la Dificultad respiratoria (54.84%), las manifestaciones clínicas en los pacientes con sepsis que no desarrollaron HTP fueron más variadas e inespecíficas. En los pacientes con HTP-S la estancia fue mayor en un 23% (aproximadamente 10 días) (p: 0.012). Las bacterias Gram (+) fueron las de mayor representación, sin embargo, no se encontró diferencia significativa (p > 0.05). Se encontró una alta resistencia tipo de BLEA, meticilino resistente y resistencia a carbapenémicos, la cual no estuvo asociada al desarrollo de HTP-S, sin embargo, esta estuvo relacionada con la tasa de mortalidad.

Conclusión: La sepsis neonatal es una causa importante de hipertensión pulmonar, el alto porcentaje de HTP-S y su relación con la edad gestacional, aumento de estancia hospitalaria y múltiples manifestaciones clínicas, hace que el paciente con HTP-S tenga un riesgo elevado de mortalidad.

Palabras clave: Hipertensión segundaria a sepsis; Sepsis neonatal; Unidad de cuidados intensivos neonatal; Síndrome de Dificultad Respiratoria, Taquipnea; Mortalidad, antibiótico, resistencia antibiótica.

ABSTRACT

Pulmonary hypertension is a syndrome of acute respiratory failure characterized by sustained elevation of pulmonary vascular resistance (PVR), leading to persistent pulmonary artery hypertension after birth, leading to right-to-left extrapulmonary shunting of deoxygenated blood through the pulmonary artery. ductus arteriosus (CA) and foramen ovale (FO) with severe hypoxemia and secondary acidosis. Pulmonary hypertension secondary to sepsis (HTP-S) is one of the complications of greatest concern in neonates due to the implications that it may entail in the short, medium and long term, some of which may even compromise the life of the child, due to the commitments to renal, cardiac and obviously respiratory level. HTP-S can be explained by several mechanisms; example: common germs in the neonatal stage such as (group B Streptococcus and gram-negative bacteria), release bacterial endotoxins triggering a secondary inflammatory response, with release of endothelial thromboxane and several cytokines (such as tumor necrosis factor-alpha) that leads to an increase in pulmonary vascular resistance. Although PHT is a frequent cause of admission to the Neonatal Intensive Care Unit, the cause that ends in pulmonary hypertension may go unnoticed, either due to little association with the pathology or its low frequency, as is the case of PHT secondary to sepsis, considered a challenge due to the difficulty of identifying newborns at risk of sepsis, especially those with a good general appearance.

Objective: Characterization of Pulmonary Hypertension secondary to Sepsis in the Neonate in a Neonatal Intensive Care Unit in Barranquilla (Atl, CO) between the years 2021 - 2022.

Methodology: An analytical, quantitative, retrospective study was carried out. Descriptive statistics were used, chi-square and Fisher's exact tests were performed to establish the relationships between variables. It was carried out in a neonatal intensive care unit in the city of Barranquilla.

Results: A total of 50 patients diagnosed with HTP-S were collected. The overall age was 7.14 (CI 3.74 – 8.74) days, with no difference between sexes ($p > 0.05$). 52% of the patients had a gestational age at term. 62% presented HTP-S. Late and

term preterm patients were the ones that most presented HTP-S. A directly proportional association was found between SDR and HTP-S (p: 0). The most frequent manifestation was respiratory distress (54.84%), the clinical manifestations in patients with sepsis who did not develop PHT were more varied and nonspecific. In patients with HTP-S, the stay was longer by 23% (approximately 10 days) (p: 0.012). Gram (+) bacteria were the most represented, however, no significant difference was found (p > 0.05). A high type of ESBL resistance, resistant methicillin and resistance to carbapenems was found, which was not associated with the development of HTP-S, however, this was related to the mortality rate.

Conclusion: Neonatal sepsis is an important cause of pulmonary hypertension, the high percentage of PHT-S and its relationship with gestational age, increased hospital stay and multiple clinical manifestations, makes the patient with PHT-S have a high risk of mortality.

Keywords: Hypertension secondary to sepsis; Neonatal sepsis; Neonatal intensive care unit; Respiratory Distress Syndrome, Tachypnea; Mortality, antibiotic, antibiotic resistance.

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