What comes after the intensive care unit?
Post-intensive care syndrome

Sara Carolina Navarro-Salgado, Lucía Simón-Alonso,
Eduardo Ortega- Collazos • Cáceres (España)
Carlos Hernando Acosta-Fernández • Tarragona (España)

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Abstract

Introduction: post-intensive care syndrome (PICS) refers to physical, cognitive and mental impairments produced during an intensive care unit (ICU) stay. Half or more of patients are estimated to suffer from some component of this syndrome. A high index of suspicion is critical for identifying PICS.

Clinical case: we describe the case of an older adult with previous partial independence who, during her ICU stay, developed two PICS components: physical and mental. The weakness acquired in the ICU was diagnosed using the MRC scale, with an initial score of 34. For the mental component, she had high scores on the Hospital Anxiety and Depression Scale. Multidisciplinary management was started with physical medicine and nutritional and psychological support, achieving partial recovery at discharge.

Discussion: this case reflects the importance of a comprehensive and early approach to PICS. While clinical improvement was achieved, late detection limited the use of preventive strategies, like the ABCDEF bundle. The literature supports the use of interventions like early mobility and physical rehabilitation to improve outcomes, although gaps remain in the strategy for the mental component.

Conclusion: this case highlights the need to strengthen the early detection of PICS and institutionalize structured multidisciplinary management beginning in the acute phase. Future studies should focus on cost-effective interventions and longitudinal follow-up of these patients. **(Acta Med Colomb 2025; 50. DOI: https://doi.org/10.36104/amc.2025.4730).**

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Dra. Sara Carolina Navarro-Salgado: Residente de Alergología, Dra. Lucía Simón-Alonso: Residente de Neumología, Dr. Eduardo Ortega-Collazos: Residente de Medicina Interna. Hospital Universitario de Cáceres. Cáceres (España). Dr. Carlos Hernando Acosta-Fernández: Médico General. Médico adjunto Servicio de Urgencias, Hospital Joan XXIII. Tarragona (España).
Correspondencia: Dra. Sara Carolina Navarro-Salgado. Cáceres (España).
E-Mail: saransalgado94@gmail.com
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Introduction

Post-intensive care syndrome (PICS) refers to physical, cognitive and mental deficits produced during intensive care unit (ICU) stays and after discharge from the ICU or the hospital. This concept also applies to pediatric patients (PICS-p) and the mental status of their families (PICS-F) (1). Although the exact prevalence of PICS among critical illness survivors is unknown, it is estimated that half or more will experience some component of this syndrome (2).

One of its most important physical components is ICU-acquired weakness (ICU-AW), defined as acute symmetric muscular weakness of the extremities caused by a critical illness, with a 40% incidence in adult patients (3).

These patients also experience high levels of psychological stress in the ICU resulting in cognitive impairment, defined as new onset or worsening cognitive function that persists months to years after hospital discharge and is associated with poor daily functioning and reduced quality of life. Impairment includes memory, executive function, language, attention, and visual-spatial skill deficits and the onset of dementia.

Depression, anxiety, and post-traumatic stress disorder (PTSD) are the main mental illnesses included in PICS. Potential mental status impairments in critical illness survivors include depression in approximately 30% of cases, anxiety in 70%, and PTSD - characterized by intrusive memories of traumatic events - in 10-50% of patients (1) (Figure 1).

A high index of suspicion is critical for identifying PICS, which can be detected in the period immediately following a critical illness. However, since the symptoms are long-lasting (6-12 months or more), and the condition is under-recognized, it may not be detected for a long period of time after the critical illness has resolved (2).

Given the various repercussions described in this type of patient, we have decided to present a clinical case with an overview of the patient after her admission to the ICU to show our readers the importance of identifying and recognizing this syndrome promptly.

Clinical case

This was a Caucasian female patient in her 70s with a history of hypertension, type 2 diabetes mellitus, stage G3bA2 chronic kidney disease, and no prior cognitive impairment. In May 2024, she underwent a laparoscopic right hemicolectomy due to a villous adenoma of the cecum, with ileocolic anas-

tomosis. Days later, she was readmitted for fecal peritonitis secondary to perforation of the anastomosis, underwent a terminal ileostomy, and was hospitalized in the ICU for 15 days.

Subsequently, after a brief stay at a nursing home, she was admitted again for persistent vomiting, inability to tolerate oral intake, weight loss and severe dehydration. She was diagnosed with hypovolemic shock and acute-on-chronic kidney failure, requiring ICU readmission, intensive fluid therapy, vasopressors and ventilatory support. After stabilization, she was transferred to a hospital floor.

On admission, she showed emotional lability, weepiness, and depressed affect measured on the Hospital Anxiety and Depression Scale (HADA: anxiety; HADD: depression), with 15 points for anxiety and 19 points for depression, along with generalized muscle weakness that prevented her from standing. The latter was evaluated with the Medical Research Council (MRC) Sum Score, obtaining 34 points. She had no cognitive impairment.

A multidisciplinary approach was implemented with endocrinology and nutrition, physical medicine and rehabilitation, and psychology. After 27 days in the hospital, her function and emotional state improved, she was able to stand and walk short distances with a walker, and she had normal metabolic and renal parameters.

Discussion

This clinical case provides a concrete view of the impact of PICS on a previously functional elderly patient who, prior to her critical illness, was partially independent in her activities of daily living (Barthel: 80). The patient's clinical course indicated two of the three diagnostic components of PICS: physical and mental.

From a physical perspective, the patient developed ICU-AW, characterized by an initial MRC score of 34 and the inability to stand. This finding correlates with the available evidence, which establishes a score of <48 on this scale as a diagnostic criterion (4). Furthermore, critically ill patients have been reported to potentially lose more than 15% of their muscle mass in their first week in the ICU (5), which is consistent with the functional deterioration found in our patient.

Although there are no specific treatments to revert ICU-AW, the literature supports preventive strategies like early mobilization and strict glycemic control (6, 7). In line with this evidence, a rehabilitation and nutrition plan was implemented, which facilitated progressive muscle strength recovery and assisted walking at discharge.

As far as the mental component, the patient had significant symptoms of anxiety and depression (HADA: 15; HADD: 19). The HADS scale, used in this case, has proven validity and reliability as a short instrument for diagnosis and follow-up of the emotional status of hospitalized patients (8, 9). Although the literature suggests using psychological or pharmacological therapy, depending on the severity of the condition (10, 11), specific evidence for treating the mental component of PICS is still limited.

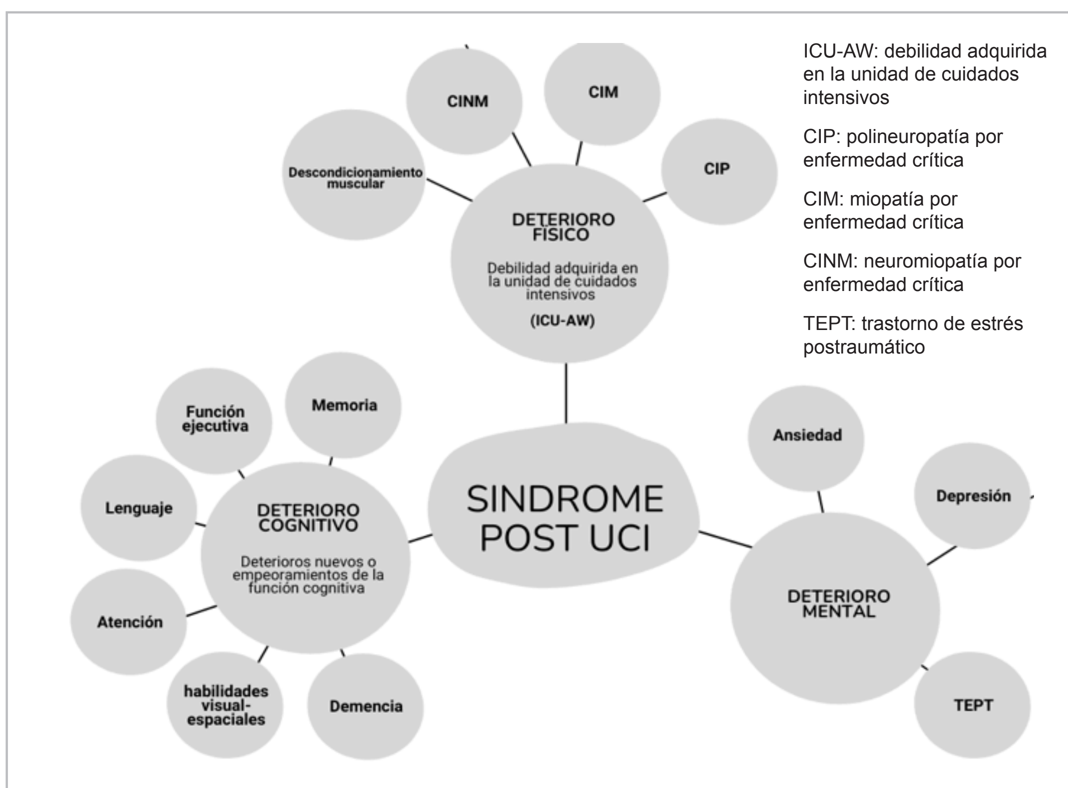

Figure 1. *Main components of PICS.*

In our case, inpatient psychological support partially improved the patient´s emotional state, although questions remain as far as the optimal duration of these interventions and their long-term impact.

Late identification of the syndrome was a significant deviation from the best practices described in the literature, preventing early implementation of strategies like the ABCDEF bundle. This set of measures, widely backed by recent studies (1), has been associated with better functional outcomes and fewer complications related to sedation, immobility, and delirium. In our case, intervention began once the symptoms were recognized, which probably led to a slower recovery.

One of the main limitations in addressing this condition was the lack of structured tools for evaluating the cognitive component of PICS, which was not formally explored. This is an unresolved point that requires attention in future follow-ups, as cognitive deficits may appear late and significantly affect quality of life. Likewise, we were unable to document continuity of treatment after discharge and therefore could not determine how the patient progressed and her degree of functional and social reintegration.

This case highlights the need to improve early detection systems for PICS and strengthen multidisciplinary teams for comprehensive management from the critical phase through post-discharge rehabilitation. Future studies should focus on defining more sensitive diagnostic criteria, establishing cost-effective therapeutic interventions for each component of the syndrome, and evaluating their mid- and long-term impact on different populations, especially older adults.

Conclusion

Post-ICU syndrome is a common but still underdiagnosed condition, with significant implications for the recovery of critically ill patients. Early identification of its components and a multidisciplinary approach are essential for improving function, preventing sequelae, and optimizing the quality of life after hospital discharge. Healthcare staff training in this area must be strengthened, along with encouraging clinical research and the unification of diagnostic and therapeutic criteria.

Patient perspective

With the patient´s consent, an interview regarding her perspective of her recovery process during her hospital stay was recorded, which is transcribed below:

"When I left the intensive care unit, I felt bad, I felt sad, I felt overwhelmed, I was in bad shape, everything hurt, I looked bad, I looked bad then. Now, here, I have been getting better, I have been recovering, I have perked up, because I was alone and you would encourage me and say things to me and that helped me a lot, and I have been recovering little by little, I feel better. I look a little better every day, I´m doing the exercises to see if I can start walking again, at least stand up and walk a little. When I go back to the home, I will feel better there, recovering little by little. What I needed most was to be encouraged, because since I was alone, that´s really what I most needed. I knew that I was in poor shape, and I know what I´ve had wrong with me, and I know I have been very sick, but all the doctors and nurses would talk with me and tell me that I wasn´t alone, not to worry, which encouraged me a little. I wouldn´t like to go back to an intensive care unit. I was aware of everything that happened, I felt overwhelmed in there, I just kept asking to get out of there, I couldn´t see anybody, it was like being locked in an elevator. I hope I never need to be there again."

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