Editorial

Human albumin – the need for prescription guidelines

Marco Fernandes

The current economic contingency must have an impact on our way of thinking and practicing medicine, molding our day-to-day practices and conditioning, whether directly or indirectly, diagnostic and therapeutic attitudes.

In this edition, the Journal Medicina Interna publishes a review of the rules for albumin prescription at a central hospital,[1] giving a critical view of prescription and use – often based on habits consecrated by practice – of a therapeutic tool which, besides carrying a considerable economic burden, is not without risks.

Although controversial and widely discussed, albumin therapy has been accepted by the medical community and widely used in clinical practice for more than fifty years.

The area in which albumin prescription is most frequent is hepatology,[1] where it is used to treat and prevent severe complications of liver cirrhosis. Randomized trials have demonstrated its effectiveness in the prevention of cardiocirculatory dysfunction after large-volume paracentesis, in renal insufficiency induced by spontaneous bacterial peritonitis, and in the treatment of hepatorenal syndrome, which are well-established indications that are supported by the main international societies.

The role of albumin in the area of critical disease is less unanimous however, and the figures obtained by the authors [1] require a critical evaluation.

In the last two decades, the use of colloids has been the object of numerous studies and systematic reviews that have sought to clarify its role as a resuscitation fluid. In 1998 the Cochrane group provoked this question, by publishing a meta-analysis that demonstrated an increase in mortality in critical patients treated with albumin.[2] Far from being a matter of consensus, the validity of this work was immediately questioned; arguments like the omission of relevant studies, the heterogeneity of the patients, and methodological errors in the studies included, kept the debate raging. Since then, many works has been published with results which, because they are not totally unambiguous, and have prompted some reservations as to the interpretation among some opinion leaders, with consequent reluctance to prescribe the use of albumin in critical patients.[3]

Although there is still no solid basis for the use of albumin in the context of resuscitation of the critical patient, we now seek to analyze its use in specific groups, such as patients with sepsis, awaiting the results of ongoing clinical trials.[4]

But the pharmaco-economic reality is unavoidable: the price of human albumin is twenty to thirty times higher than the price of crystalloids, and the burden this places on the health systems makes it imperative to define rules for its prescription. In the United States, 52.2% of all prescriptions of albumin in the adult population were considered inadequate in light of current evidence[5] and in Spain, 77% of the albumin costs in the public hospitals of Andalusia were associated with its inappropriate used.[6] The implementation of local protocols for the use of albumin showed an improvement in terms of the appropriateness of prescriptions to what is established by the international recommendations[7] and a significant cost reduction.[8,9]

Now, more than ever, the medical community is called to take part in an active, critical and responsible way in the use of the available resources, and the implementation of rules for prescription is fundamental. For specialists in internal medicine, it is necessary to respond readily to this appeal, based on their therapeutic decisions in light of current scientific knowledge, and demonstrating availability to reflect on their work, and that of their colleagues, in a methodological and rigorous way. The common goods are scarce and it is our duty to know how to generate them sensitively and responsibly. ■

References

1. Pasini J, Marcelino P, Mourão L. Novos padrões versus velhos hábitos de prescrição de albumina num hospital central. Medicina Interna 2011.

2. Cochrane Injuries Group Reviewers. Human Albumin administration in critically ill patients: systematic review of randomized controlled trials. BMJ, 1998;317:235-240.

3. Vincent JL. Ressuscitation using albumin in critically ill patients. Research

in patients at risk of complication is now needed. BMJ 2006;33(7577):1044.

4. Delaney AP, Dan A, McCaffrey J, Finfer S. The role of albumin as a resuscitation fluid for patients with sepsis: a systematic review and meta-analysis. Crit Care Med 2011; 39(2):386-391.

5. Tanzi M, Gardner M, Megellas M, Lucio S, Restino M. Evaluation of the appropriate use of albumin in adult and pediatric patients. Am J Health Syst Pharm 2003; 60(13):1330-1335.

6. Tarín Remohí MJ, Sánchez Arcos A, Santos Ramos B, Bautista Paloma J, Gerrero Aznar MD. Costs related to inappropriate use of albumin in Spain. Ann Pharmacother, 200;34(10):1198-1205.

7. Mirici-Cappa F, Caraceni P, Domenicali M, Gelonesi E, Benazzi B, Zaccherini G, Trevisani F, Puggioli C, Bernardi M. How albumin administration for cirrhosis impacts on hospital consumption and expenditure. World J Gastroenterol 2001; 17(30):3479-3486.

8. Charles A, Purtill M, Dickinson S, Kraft M, Meldrum C, Napolitano L. Albumin use guidelines and outcome in a surgical intensive care unit. Arch Surg 2008; 143(10):935-939.

9. Debrix I, Combeau D, Stephan F, Benomar A, Becker A. Clinical practice guidelines for the use of albumin: results of a drug use evaluation in a Paris hospital. Tenon Hospital Paris. Pharm World Sci 1999; 21(1):11-16.