

Foreword

I am particularly honored to prepare a foreword for the excellent series of articles included in this issue of *Critical Care Clinics*, because it marks another milestone in the maturation of neurocritical care as a discipline. The Neurocritical Care Society now numbers more than 700 members, but in the late 1980s the involvement of neurologists in the care of critically ill patients was limited to occasional consultations in all but a few academic centers in the United States. One of those centers, Johns Hopkins, has remained at the forefront of this field; many of the authors of this issue trained there and several remain on its faculty.

Although the study of neurologic complications in critical care dates back at least to the work of Peter Safar in the 1960s [1], two of the truly groundbreaking contributions came from Charlie Bolton and colleagues [2] (critical illness polyneuropathy) in 1984 and Bryan Young and associates [3] (septic encephalopathy) in 1985. Isensee and colleagues [4] published the first survey of neurologic complications in a medical intensive care unit in 1989. During this time I had the great fortune to work with Roger Bone, one of the chief architects of multidisciplinary critical care medicine, and with his encouragement we began a 2-year study of the epidemiology of central nervous system complications in the medical intensive care unit [5].

In the past 2 decades research into neurologic complications of critical illnesses has progressed tremendously. Much more is known about the pathogenesis of the varied complications encountered. In some areas, such as critical illness polyneuropathy, we are now able to prevent most cases by attention to the details of medical care; in others, such as seizures, our therapeutic armamentarium has grown substantially. The most dramatic advance, in my view, is the success of induced hypothermia for patients in coma after resuscitation from cardiac arrest; Peter Safar encouraged this long ago, but we have a tremendous amount of work to make this currently recognized treatment the standard of care for these patients.

We still have a long way to go. Septic encephalopathy remains a daunting problem for which there is little understanding and no treatment. Perhaps the large variety of potential mechanisms contributes to its intractability. In recent years we have become more aware of the long-term consequences of acute brain dysfunction and the neuromuscular disorders that can plague ICU survivors indefinitely. We are even uncertain about how to classify the

encephalopathies of these patients. Time will tell whether lumping all acute changes in mental status into the term “delirium” will prove to be justified; however, it is certain that increasing emphasis on the recognition of these patients can only help them. Autonomic dysfunction in the critically ill occurs commonly but is just beginning to be studied. The central nervous system consequences of acute liver failure remain a major cause of death in these patients, even in the immediate posttransplant period, and hence require better management techniques.

We have come a long way from the days when the neurologic complications of critical illness were considered to be natural consequences of the underlying disease and not of interest to neurologists [6]. I look forward to subsequent issues of *Critical Care Clinics* in which further advances in our understanding of pathophysiology and the therapies available will allow us to prevent and treat these problems more effectively.

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