The Complexities of Traumatic Brain Injuries

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Some of the most complex patients I have treated over the last four decades had brain injuries. They often had multifocal pathology that caused a variety of neurological problems. In addition, they usually had medical complications that compromised their rehabilitation and sometimes necessitated a transfer back to the acute care hospital.

A review of medical complications during inpatient rehabilitation for brain injuries found that there were 0.40 events per week per patient, and more than 80% had at least one adverse event. Hypertonia, agitation/aggression, urinary tract infection, and sleep disturbance were the most common (each more than 5% of all complications). The most severe problems included hydrocephalus, pneumonia, gastrointestinal conditions such as bleeding and obstruction, and paroxysmal sympathetic hyperactivity.[1]

Rehabilitation for patients with brain injuries requires an interdisciplinary approach, as reflected in this special issue of the *Rhode Island Medical Journal*. Neurologists are essential for the early care of these complex patients. **BRUNO MOURAO-PACHECO, MD**, and his co-authors discuss hypothermia, hyperosmolar therapy, and cerebrospinal fluid drainage as well as prevention of ventilator-associated pneumonia, deep venous thromboses, and seizures.

In the rehabilitation setting, **STEPHAN P. PIRNIE, MD, PhD,** describes a patient with a severe traumatic brain injury and highlights the neurocognitive, motor, and sensory abnormalities. **ALEXIOS G. CARAYANNOPOULOS, DO, MPH**, and his co-authors offer a review of rehabilitation strategies for aphasia, dysphagia, paresis, respiratory dysfunction, cognition, and behavior. Physical therapy for these patients is complicated by abnormal tone, balance, and cognition – as discussed by **KENNETH VINACCO, PT, DPT, NCS**, and his co-authors. **JOAN M. JORDAN, DHA, CCC-SLP**, and I review current approaches for cognitive-communication rehabilitation after brain injuries.

Even after returning home, patients with brain injuries are vulnerable to long-term complications. **JONATHAN LIU, MD**, and his co-authors review the pathophysiology, evaluation, and treatment of neurogenic heterotopic ossification. Spasticity and abnormal tone can impair the functional status of patients with brain injuries and lead to contractures. **MARY LOU, BS**, and her co-authors offer a comprehensive review of treatment strategies for spasticity, ranging from physical therapy to orthopedic surgery.

Patients with brain injuries require evidence-based and specialized care from an interdisciplinary team, such as the clinicians who have contributed to this issue. These patients should also receive long-term services for home and outpatient rehabilitation, counseling, cognitive rehabilitation, and vocational rehabilitation.

References

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