In Reply.—

The discussion by Dr Pollack et al about objective analysis of ICU resources is useful to all pediatricians. Objective analysis may be especially helpful in individual case discussions when a physician’s fears about one or more patients seem to be excessive and result in inappropriate utilization of high-cost care. Former stressful experiences of the physician or of the patient and family with the specific medical disorder, within a health care institution, or with one another may result in a disproportionate anxiety and sense of threat not easily soothed by simple reassurance. Objective analysis in these situations may be especially helpful in supporting reasonable alternative and less expensive care, which serves everyone well!

These scientific studies by Dr Pollack and his colleagues continue to advance the art of medicine through science. We are all grateful.

MARTHA BUSHORE, MD, FAAP
Emergency/ICU/Inpatient Medical Services
East Tennessee Children’s Hospital
Knoxville, TN

Absence Hypoxic and Hypercapnic Arousal Responses in Children With Myelomeningocele and Apnea

To the Editor.—

The findings by the authors of a recent report about abnormalities in hypoxic and hypercapnic arousal responses in children with myelomeningocele and Arnold-Chiari malformation, who were symptomatic with apnea and/or hyperventilation, are interesting indeed, and the abnormalities have been reported well.¹

In the discussion, the authors failed to tell the readers about the known anatomical substrate for such abnormalities. The anatomical substrate is a malformation of brainstem nuclei and consequently brainstem connections of the cranial nerve nuclei and reticular formation. This was found by Lucy B. Rorke, MD, pediatric neuropathologist, and the findings were published recently in Neurosurgery.²

The previously described anatomical abnormalities are the reasons that the operative procedures for the Arnold-Chiari malformation fail in certain circumstances.³

HECTOR E. JAMES, MD
Neurosurgery and Pediatrics
University of California Medical Center
San Diego, CA

REFERENCES


In Reply.—

CNS anomalies associated with myelomeningocele and Arnold-Chiari malformation (Neurosurgery 1986;18:559-564) could account for the abnormal arousal responses we described (Pediatrics 1986;78:44-50). They may also explain the failure of posterior fossa decompression surgery to correct apnea in some patients with myelomeningocele. We were not able to study children before and after posterior fossa decompression surgery; nor did we examine postmortem specimens. Consequently, our paper does not determine whether the cause of abnormal arousal responses is due to mechanical compression or anatomical anomalies of the brainstem. We thank Dr James for calling our attention to his study.

SALLY L. DAVIDSON WARD, MD
THOMAS G. KEENS, MD
Division of Neonatology and Pediatric Pulmonology
Children’s Hospital of Los Angeles
University of Southern California,
School of Medicine
4650 Sunset Blvd
Los Angeles, CA 90027

Lack of Statistical Power

To the Editor.—

Dr Donowitz described an interesting research project in which the efficacy of overgown use in the prevention of pediatric intensive care unit nosocomial infection was examined.¹ He concludes that “overgowns were an expensive and ineffective method of preventing or decreasing nosocomial infections.”² Although Dr Donowitz may be correct, his inattention to sample size and statistical power in this negative trial makes his argument less than compelling.

Given the nosocomial “base rate” of about 10% without gowns, the detection of an infection rate difference of 50% between the nongown and gown subgroups (α = .05, β = .2) would require a sample size of about 500 in each subgroup.² To detect smaller differences that might be considered clinically important (eg, 20% or 30%) would require an even larger sample. Although intriguing, Dr Donowitz’ negative findings may be explained by this study’s inadequate statistical power.

JOHN M. PASCOE, MD, MPH
Department of Pediatrics/Human Development
Michigan State University
East Lansing, MI 48824-1317

REFERENCES

1. Donowitz LG: Failure of overgown to prevent nosocomial
Passing Out—On Purpose

To the Editor.—

I recently saw a teenager in Mobile, AL, perform a remarkable act. She bent over and forcefully inhaled and exhaled to the count of 20. This was followed by a rapid change to the erect position while placing both hands over her carotids. The combination of a respiratory alkalosis, orthostatic hypotension, and carotid sinus massage induces a state of altered consciousness.

Interviews with her peers revealed this practice to be quite popular and usually done in groups. Unintended outcomes reported by them were occipital scalp wounds and occasional seizures.

Parents would be well-advised to discourage the practice of this new (or old?) fad.

Juan N. Walterspiel, MD
Department of Pediatrics
Division of Infectious Diseases
University of South Alabama College of Medicine
2451 Fillingim St
Mobile, AL 36617

TABLE 1. Comparison of Two Groups of Very Premature and Very Low Birth Weight Infants*

<table>
<thead>
<tr>
<th></th>
<th>Placebo Group</th>
<th>Phenobarbital Group</th>
<th>P Value (χ² test with Yates correction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total No. of infants with severe hemorrhage</td>
<td>135</td>
<td>145</td>
<td>NS</td>
</tr>
<tr>
<td>Any hemorrhage</td>
<td>26</td>
<td>51</td>
<td>NS</td>
</tr>
<tr>
<td>Severe hemorrhage</td>
<td>8</td>
<td>18</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>(Proportion)</td>
<td>(8/26)</td>
<td>(18/51)</td>
<td>NS</td>
</tr>
<tr>
<td>No. of babies of &lt;32 wk gestational age with any hemorrhage</td>
<td>92/135</td>
<td>117/145</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Any hemorrhage</td>
<td>22</td>
<td>45</td>
<td>NS</td>
</tr>
<tr>
<td>Severe hemorrhage</td>
<td>8</td>
<td>16</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>(Proportion)</td>
<td>(8/22)</td>
<td>(16/45)</td>
<td>NS</td>
</tr>
<tr>
<td>No. of babies weighing &lt;1,501 g at birth with any hemorrhage</td>
<td>104/135</td>
<td>127/145</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Any hemorrhage</td>
<td>23</td>
<td>50</td>
<td>NS</td>
</tr>
<tr>
<td>Severe hemorrhage</td>
<td>7</td>
<td>18</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>(Proportion)</td>
<td>(7/23)</td>
<td>(18/50)</td>
<td>NS</td>
</tr>
</tbody>
</table>

* Data were taken from tables 5 and 6 of Kuban et al.¹

Neonatal Intracranial Hemorrhage and Phenobarbital

To the Editor.—

We appreciate the recent study by Kuban et al¹ about neonatal intracranial hemorrhage and phenobarbital use, but we would like to mention several points.

The number of neonates not having been enrolled represents a high proportion of the eligible population (85/514 or 47.5%) from which 8 (8.7%) had hemorrhage before enrollment, suggesting that the inclusion criteria were not sufficient according to the pathophysiology of cerebral blood flow variability in the neonates. In fact, the authors were missing 48/140 (34.3%) of infants with any hemorrhage (the number of infants with any hemorrhage they studied was 92).

If we analyze their data (Table 1), it becomes clear that (1) more infants in the phenobarbital group had severe hemorrhage, (2) those were also more infants from this group of <32 weeks gestational age or 1,501 g at birth, (3) the incidence of so-called any hemorrhage was similar in both groups, and (4) the proportion of severe hemorrhage (among any hemorrhage) was similar in both groups, even in the babies <32 weeks or 1,501 g at birth.

We believe (and this is dictating the policy in our unit) that it is worth paying more attention immediately after birth to values of blood pressure, trying to avoid a fluctuating waveform, by giving Pavulon if necessary,² and to offer optimal values of glucose (5 mg/100 g/min) and oxygen (3 mL/100 g/min) to the brain faced with a variable blood flow (Table 2), rather than to imagine preventing intracranial hemorrhage by any drug. To appreciate this variability clinically, we follow the predicted influence on cerebral blood flow of BP³ and arterial oxygen content.⁴

If the baby with respiratory distress syndrome at admission does not meet these optimal conditions or does not have a rectal temperature above 36°C, only then are we giving Phenobarbital, and we continue the drug according to the criteria of Ellison.⁵ By following that policy, we are able to observe a drop in the incidence of intracranial hemorrhage in babies below 35 weeks at birth from 38.9% before 1984⁶ to 20.9% since 1984; and from

References


<table>
<thead>
<tr>
<th><strong>Updated Information &amp; Services</strong></th>
<th>including high resolution figures, can be found at: /content/79/2/313.4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Permissions &amp; Licensing</strong></td>
<td>Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: /site/misc/Permissions.xhtml</td>
</tr>
<tr>
<td><strong>Reprints</strong></td>
<td>Information about ordering reprints can be found online: /site/misc/reprints.xhtml</td>
</tr>
</tbody>
</table>
Lack of Statistical Power
JOHN M. PASCOE
Pediatrics 1987;79;313

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/79/2/313.4