ICU May Not Be Necessary For Most Kids After Chiari Surgery

Doctors at Children's Hospital Colorado published an interesting study recently which found that most children can skip the intensive care unit after Chiari surgery and recover more quicky in the general hospital. As part of an ongoing quality initiative, the Colorado hospital has been reviewing post-operative standard of care for different surgical procedures. After making a change to the post-op protocol of a different neurosurgical operation, they decided to study if the same change would work with Chiari decompressions. To accomplish this, first they reviewed 10 years of pediatric Chiari surgeries to identify the types of patients that would be too risky to have skip the ICU. They deemed these cases to be medically complex, which included those who were admitted on an emergency basis for Chiari related symptoms, those undergoing multiple procedures at the same time, those with behavioral challenges that required closer supervision, and those with significant heart or breathing comorbidities. Next, they implemented a new standard for post-operative care whereby eligible patients instead of spending time in the pediatric ICU recovered initially in a post-anesthesia unit and then were transferred to the general hospital. Finally, the doctors compared the old practice to the new practice on a number of measures, including length of stay, time to fluid and solid food intake, pain, narcotic use, and hospital readmission after discharge.

The review group included 176 total patients, of which 26 (15%), were medically complex and excluded from the study. The study group included 25 patients, of which 4 (16%) were medical complex and were excluded from the new protocol. The two groups were very similar in terms of age, type of Chiari, related conditions, and surgical procedures undertaken. The new protocol reduced the average length of stay from 3.4 to 2.6 days; the median time to liquid intake from 4.7 to 1.2 hours; and the average time to solid food intake from 27.9 to 19.7 hours. In addition, the average time to ambulation (walking) was cut in half from 1.8 days to 0.9 days. While pain levels in the two groups were not significantly different, narcotic use was lower in the study group while anti-inflammatory use was higher. There were no post-operative complications or readmissions within 30 days in the study group, compared to 4% and 8% in the review group respectively.

This study follows several others that have focused on optimizing post-operative care for pediatric Chiari cases. While the results are encouraging, it will likely take more positive results at other institutions before becoming accepted practice.

Source: Postoperative general medical ward admission following Chiari malformation decompression.
Finneran MM, Graber S, Poppleton K, Alexander AL, Wilkinson CC, O'Neill BR, Hankinson TC, Handler MH.
J Neurosurg Pediatr. 2022 Sep 16:1-7.

Conquer Chiari's research updates highlight and summarize interesting publications from the medical literature while providing background and context. The summaries do contain some medical terminology and assume a general understanding of Chiari. Introductory information and many more research articles can be found at www.conquerchiari.org.