the Children's Hospital, Turin, Italy. Of 53 patients observed, 27 were asymptomatic and treated conservatively, and 26 had symptoms, associated with brain stem compression in 16 and syringomyelia in 10. Of the group with brain stem compression, 44% had neck pain, 31% vertigo, and 31% headache. In those with syringomyelia, the commonest symptoms were numbness (50%), sensory loss (40%), neck pain (40%), and vertigo (40%). With an average follow-up after surgery of 22 months (6-60 months), symptoms improved or resolved in all but 3 patients, with no serious complications. A simple extradural surgical approach appears to have comparable results with more aggressive procedures and less complications. (Genitori L, Peretta P, Nurisso C et al. Chiari type 1 anomalies in children and adolescents: minimally invasive management in a series of 53 cases. Child's Nerv Syst Nov 2000;16:707-718). (Dr Genitori, Division of Pediatric Neurosurgery, Children's Hospital (OIRM), P Polonia 94, Turin, Italy).

COMMENT. Surgery for Chiari type 1 is controversial. The American Association of Neurological Surgeons Pediatric Section suggested in 1988 that decompression may be indicated for brain stem or cranial nerve dysfunction associated with the anomaly (Haines SJ, Berger M. Neurosurgery 1991;28:353-357). In symptomatic cases the aim of posterior fossa decompression and cervical laminectomy is to restore a normal CSF circulation at the foramen magnum. The authors find that the simple extradural surgical approach can provide symptomatic relief in most cases, and is superior to more aggressive techniques described in the literature. The following case report of complete and spontaneous resolution of childhood Chiari 1 malformation and associated syringomyelia is noteworthy.

Spontaneous resolution of Chiari I anomaly. A 7-year-old boy with a one month history of severe headaches and vomiting and a family history of migraine was found to have on MRI a Chiari I malformation and cervical syringomyelia. Treated conservatively as migraine with an incidental anomaly, headaches improved following dietary modification and omission of chocolate. At age 13, headaches recurred with greater severity, despite medication. A repeat MRI was normal, showing no evidence of either anomaly. At 16 years, he continues to have headaches every 3 months despite prophylactic Inderal. His neurologic examination is normal. (Sun PP, Harrop J, Sutton LN. Complete spontaneous resolution of childhood Chiari I malformation and associated syringomyelia. Pediatrics Jan 2001;107:182-185). The authors advocate less prophylactic decompression and more frequent conservative management, with serial imaging and neurologic monitoring, in asymptomatic childhood Chiari 1 malformation with associated small or moderate sized syringomyelia. In this case the anomaly was apparently not the cause of the headaches.

VASCULAR DISORDERS

LUMBAR PUNCTURE WITH ALL AND THROMBOCYTOPENIA

The potential association of neurologic, infectious, or hemorrhagic complications with lumbar puncture (LP) during remission induction or consolidation treatment of acute lymphoblastic leukemia (ALL) with thrombocytopenia was determined at St Jude Children's Research Hospital, Memphis, TN. The records of 958 consecutive patients, ages 1 month to 18 years (median, 5.5 years), with newly diagnosed ALL treated between Feb 1984 and July 1998, were reviewed retrospectively, with special attention to the platelet count at the time of LP. Of 895 LPs performed at diagnosis, serious complications were

rarely encountered despite platelet counts of 10 x 10^9/L or less in 11 cases, 20 x 10^9/L or less in 67, and 50 x 10^9/L or less in 306. Among a total of 5223 LPs performed either at diagnosis or during a median of 4 LPs for intrathecal chemotherapy (methotrexate, hydrocortisone, cytarabine), the estimated probabilities of serious complications (95% confidence intervals) in relation to platelet count (pc x 10^9/L) were 0-40.19% with 1-5 pc, 0-13.21% with 6-10pc, 0-2.05% with 11-20pc, and 0-0.10% with >100pc. Traumatic LP recorded in 548 procedures (10.5%) was not associated with adverse sequelae. LPs preceded by prophylactic platelet transfusion (n=167) and without post-transfusion platelet counts were excluded. LPs were performed by pediatric oncologists, pediatric oncology fellows, pediatric residents, and nurse practitioners. Only 29 LPs were performed in patients with platelet counts of 10 x 10^9/L or less, and the potential risks associated with LP without platelet transfusion in this group of patients is not determined. (Howard SC, Gajjar A, Ribeiro RC et al. Safety of lumbar puncture for children with acute lymphoblastic leukemia and thrombocytopenia. JAMA November 1, 2000;284:2222-2224). (Reprints: Scott C Howard MD, Department of Hematology-Oncology, ALSAC Bldg, Room C6005, St Jude Children's Research Hospital, 332 N Lauderdale St, Memphis, TN 38105).

COMMENT. In the management of children with acute lymphoblastic leukemia, diagnostic and therapeutic lumbar puncture (LP) procedures may be performed without risk of serious hemorrhagic complication despite thrombocytopenia. Prophylactic platelet transfusion is not advised prior to LP when platelet counts are higher than 10 x 10^9/L. Below this number of platelets, the safety of LP is unproven. An article entitled "the perils of platelet transfusions" (Kruskall MS. N Engl J Med 1997;337:1914-1915) is cited as a contraindication to platelet transfusion as a routine practice.

Consultation with my colleagues in the Division of Hematology/Oncology at Children's Memorial Hospital, Chicago, corroborates these findings and practice. Platelet transfusion is not routinely administered prior to LP. Furthermore, no serious hemorrhagic complication has been encountered even with platelet counts of 3-4 x 10^9/L. The majority of patients undergoing LP on this service receive a short-acting sedative and a topical application of lidocaine cream (Emla®), since the risks of potential hemorrhage may be increased in patients requiring excessive restraint. (personal communication)

SUBDURAL HEMATOMA AND GLUTARIC ACIDURIA TYPE 1

An 8-week-old male infant diagnosed with bilateral subdural hematoma following a reported fall and head injury was found to have glutaric aciduria type 1 and was subsequently treated by dietary modification at Addenbrooke's Hospital, Cambridge, UK. Initially suspected to have a nonaccidental injury, the infant had been placed in foster care and the mother prosecuted. The metabolic diagnosis was suspected at 6 months of age when the infant presented with macrocephaly and developmental delay. Urine organic analysis showed elevated excretion of glutaric acid and 3-hydroxyglutaric acid. Glutaryl-CoA dehydrogenase activity was absent in cultured fibroblasts. Despite reduced lysine/tryptophan diet with carnitine supplement, the infant remains globally retarded. (Hartley LM, Khwaja OS, Verity CM. Glutaric aciduria type 1 and nonaccidental head injury. Pediatrics Jan 2000;107:174-176). (Reprints: Dr CM Verity, Box 181, Addenbrooke's Hospital, Cambridge CB1 2QQ, UK.

COMMENT. Infants with subdural hematoma and suspected NAI should receive metabolic screening before parental charges are pursued.