cope at home alone, or with family support, and not the overall cost of rehabilitation from the time of hospital admission or most recent illness.

Our study shows that the daily cost of day hospital care is slightly less than that of geriatric inpatient care, but, because day hospital attendance is prolonged, its cumulative cost is greater than the combined cost of inpatient and domiciliary rehabilitation. This cumulative cost is proportional to day hospital occupancy rates and to the duration of attendance. The average number of visits in British day hospitals is thought to be about 20 per patient.¹⁷ This is similar to the 23 days per patient in this study, which, together with a relatively low day hospital occupancy during the trial period (58%), gives a cost of \$86.69 per patient per day and a cumulative cost one third greater than that in the control group. The more typical occupancy of 72% and 19 attendances per patient in the six month period after the trial still gives a cumulative cost greater than that of the control group during the trial. In theory, the cumulative costs of day hospital and control groups may be calculated to reach parity only at 100% occupancy and 18 attendances per patient, at which point day hospital costs would be \$58.96 per patient per day.

The additional social cost incurred by the day hospital group because of the extra eight days spent by them in the community (table IV) is not thought to be of major importance in the context of a five month assessment period. The sustained improvement in mood of day hospital patients might be achieved just as well and certainly more cheaply by day care centres, which in New Zealand are run by volunteers.

This trial questions the economic justification of the day hospital as a means of rehabilitation in elderly patients, and suggests that rehabilitation may be achieved more economically by the combined use of inpatient care, domiciliary services, and day care centres. The day hospital has become an accepted part of the geriatric service perhaps because of practical advantages of improved staff recruitment and patient acceptability and because it follows the popular trend away from institutional care to community care.¹⁷ A few day hospital places provide an additional option of care for the elderly but this should not be seen as a "cheap" alternative to insufficient

inpatient geriatric beds; like all aspects of health care it needs critical evaluation. Cost effectiveness might be improved by concentrating on the expensive components of day hospital care, by considering, for example, more flexible staffing levels appropriate to daily occupancy, alternative forms of transport (for example, volunteer services or taxis in selected cases), and restricting the number of attendances to avoid a social day care role. Renewed emphasis on adequate numbers of inpatient beds, domiciliary services, and community day care centres is necessary.

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Lesson of the Week

Importance of neurosurgical consultation after ultrasonic diagnosis of fetal hydrocephalus

STEPHEN MURPHY, PRASANTA DAS, D NORMAN GRANT, RICHARD HAYWARD

Ultrasound examination of the fetus is being used increasingly as a routine part of prenatal care. Although the benefit of such examinations may appear to be obvious, we here draw attention to the dangers of acting on the finding of one particular fetal abnormality (hydrocephalus) without consulting the relevant specialists. We report on four infants referred to the department of neurosurgery at

To avoid the dangers of unnecessary premature delivery a neurosurgical opinion should always be sought in the management of infants in whom fetal hydrocephalus has been diagnosed ultrasonically

this hospital over the past six months; their cases have been selected specifically because of the lessons that may be drawn from them.

Case reports

Case 1—The mother of this boy was diagnosed clinically as having polyhydramnios, and an ultrasound examination at 34 weeks' gestation

The Hospital for Sick Children, London WC1N 3JH

STEPHEN MURPHY, BSC, MRCP, senior house officer
PRASANTA DAS, PHD, DN, hydrocephalus research registrar
D NORMAN GRANT, FRCS, consultant neurosurgeon
RICHARD HAYWARD, FRCS, consultant neurosurgeon

Correspondence to: Mr R Hayward.

suggested that the head of the fetus was enlarged due to hydrocephalus. Labour was induced at 34 weeks and vaginal delivery of a boy weighing 2440 g accomplished without incident. Although the head circumference at birth was above the 97th percentile, a further ultrasound examination on the first day of life showed the ventricles to be of normal size. The child, however, developed hyaline membrane disease and required ventilation. On the second day his condition deteriorated acutely with profound hypoxia and acidosis. Further ultrasound scanning showed large bilateral intraventricular haemorrhages with extension into the brain parenchyma. He then developed frequent seizures and progressive hydrocephalus. This was controlled during his severe respiratory illness with serial lumbar punctures, but on the 29th day of life a ventriculoperitoneal shunt system was inserted. Thus, although the results of the original, predelivery ultrasound examinations are not available on "hard copy" for examination, the diagnosis of fetal hydrocephalus was probably incorrect and the premature induction of labour therefore unnecessary. The child developed the severe complications of prematurity, which in turn led to him acquiring the very condition that had been incorrectly diagnosed in the beginning.

Case 2—Ultrasound examination at roughly 32 weeks' gestation suggested the presence of an intracranial cyst, which on subsequent scanning appeared to be enlarging progressively. A caesarean section was therefore performed at 34 weeks, the boy weighing at birth 2180 g. He then developed hyaline membrane disease, and at 48 hours frequent episodes of apnoea were occurring. For three days he required ventilation and then at the age of 1 week he was transferred to our unit where a computed tomogram confirmed the presence of an intrahemispheric cyst, agenesis of the corpus callosum, and moderate hydrocephalus. On admission his intracranial pressure appeared to be low but his pulmonary problems were such that he needed immediate transfer to our respiratory unit. Progressive enlargement of the head continued, however, and a cystoperitoneal shunt system had to be inserted when he was about 3 weeks old. Thus the ultrasonic diagnosis was correct, but he suffered more from the effects of his prematurity than from raised intracranial pressure; in retrospect his delivery would have been postponed until at least 37 weeks' gestation.

Case 3—After ultrasonic diagnosis of severe hydrocephalus, labour was induced at 34 weeks' gestation and a boy (birth weight 2340 g) delivered vaginally. Before delivery his parents had been warned of the extremely poor prognosis attached to hydrocephalus diagnosed at this age and were told that he was unlikely to survive. After delivery, however, although the diagnosis of hydrocephalus was confirmed both ultrasonically and by computed tomography, he was extremely vigorous and had no obvious neurological problems due to his high intracranial pressure or consequent on his prematurity. He was transferred to the neurosurgical unit, where congenital aqueduct stenosis was diagnosed and a ventriculoperitoneal shunt inserted. Although the diagnosis of hydrocephalus was correct and subsequent examination confirmed that the intracranial pressure was sufficiently high to justify his premature delivery, prior discussion with a neurosurgeon would have permitted better organisation of the whole procedure and would have provided more accurate information for the parents.

Case 4—At 35 weeks' gestation ultrasound examination showed a large fetal head due to hydrocephalus. Immediate delivery by caesarean section was proposed, but after consultation with the neurosurgical unit at this

hospital it was agreed that, as the ventricular enlargement was only moderate and there were no signs to indicate fetal distress, the pregnancy should be allowed to progress while further examinations were repeated at weekly intervals. These subsequent scans showed no further enlargement of the ventricles, and the infant was eventually delivered by caesarean section without incident at 38 weeks' gestation (birth weight 4620 g). He subsequently developed well and aged 6 months showed no sign of any neurological impairment. Subsequent computed tomography and ultrasound examination did not show any progression of his hydrocephalus. Thus, when ultrasonic diagnosis of hydrocephalus led to consultation with a neurosurgeon, a policy was agreed that enabled the pregnancy to proceed closer to full term before a caesarean section (necessary because of cephalopelvic disproportion) was performed. Subsequent examinations confirmed that the hydrocephalic process must have stopped before its original detection.

Discussion

These four recent cases highlight some of the dangers that can arise in the management of infants in whom fetal hydrocephalus has been diagnosed by ultrasound scanning. These may be listed as follows: (1) the diagnosis may be incorrect; (2) the degree of hydrocephalus varies, and a specialist experienced in its management should always be consulted if decisions regarding premature delivery are to be made; (3) the adverse effects of prematurity may be worse than those of hydrocephalus, especially in infants of low birth weight; and (4) hydrocephalus diagnosed in utero does not necessarily carry a hopeless prognosis.

At present no effective treatment exists for hydrocephalus in utero. Although insertion of a catheter to drain ventricular fluid into the amniotic cavity has been tried, it is a procedure that has not yet won general acceptance because of the difficulties involved and the danger of producing fetal damage and premature delivery. Thus for infants with raised intracranial pressure due to progressive hydrocephalus ventricular shunting remains the only realistic long term treatment. As this will usually be carried out in a neurosurgical department (and preferably one with a paediatric specialist) we recommend that, when fetal hydrocephalus is diagnosed on ultrasound examination, hard copy of the scans should be obtained and a neurosurgical unit consulted. After this a decision might be made to allow the pregnancy to proceed while regular follow up examinations are performed. Alternatively, the degree of ventricular dilatation or its rate of progression, or both, might be considered to pose a greater risk to normal development than would prematurity, in which case delivery of the child either vaginally or by caesarean section would be recommended with a view to instituting immediate ventricular drainage.

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MATERIA NON MEDICA

Tabuk vignette

Those of us who work in the general practice clinic have a half day on a Thursday, and so yesterday I took some friends in the car to have a game of squash (gentle middle aged squash in my case) and to have a swim in the delightful pool in the former German camp, some five miles away, almost deserted now that the time for construction has passed.

After the exercise and the swim, and the inevitable social chat, I found that the rest wanted to stay on and would find their own way back. So I was on my own driving home along the well surfaced dual highway, back to the cantonment.

The fact that I was solo had something to do with it. Maybe I was also overcome by that pleasant feeling of content which follows exercise and borders on euphoria, but certainly my mind was able to wander easily into the world of the imagined and the unreal. My eyes, too, wandered a little and in a right hand glance I saw a solitary camel, saddled, girthed, and tethered, but not hobbled, by the roadside. There was no sign of the owner.

It was a singular sight for a solitary camel to be so accoutred, so near the city, by the side of a main road. I visualised a two way radio in the saddle bag and the hump sprouting a whip aerial. In the middle distance beyond the desert—once virgin but now despoiled by excavation and dumping

—were tiny buildings and trees, with the occasional water tower, grouped in little areas of habitation all shimmering in the afternoon haze. In the immediate foreground was the rail-less embankment of the old Hejaz Railway—Lawrence's Railway, as present day expatriates tend to call it.

A cyclist, in that heat, was passing the camel as I came along. Shorts and t-shirt completed his attire. He was ambling along, as befitted the conditions. A static scene, there was movement only in the changing parallax of myself, the cyclist, and the docile camel.

At that moment the camel began to jump and career about, pulling at its tether and turning circles like a spirited young colt. Then I noticed that it was enveloped in one of those windy, dusty vortices which the desert conjures up in hot summer days, sometimes the narrow column of yellow dust spiralling to several hundred feet. This one was sudden of onset, and dispersed itself after a minute, but it certainly upset the hitherto phlegmatic camel, partly enveloping the cyclist as it passed.

Somehow the whole little scene which flashed in the eye for a few fleeting seconds was captured in my fancy as an enduring vignette. It all seemed so incongruous: the Filipino cyclist, the gyrating camel, the historical perspective granted by the embankment, and the partly urbanised desert in the background. A juxtaposition of inconsequentials.—G A GRAY, Tabuk, Saudi Arabia.