The effect of intravenous urea was discussed and the fall in pressure after the administration of the conventional dosage compared with that following 5 g. A similar reduction in pressure occurred with the smaller dose but was of shorter duration.

Reductions in intracranial pressure following the use of Mannitol and Frusemide were also compared with the results seen with urea. Difficulties arose in comparing pressure changes due to those drugs in different patients under varying conditions. However, the opportunity to show the response of 40 g. urea, 250 ml. 20% Mannitol, and 30 mg. Frusemide each given intravenously to the same patient, under similar conditions, was taken. Reduction in pressure followed with each drug, the largest and most rapid fall followed the administration of urea. Duration of the response was most prolonged with Frusemide.

OBSERVATIONS ON C.S.F. FLOW USING ISOTOPE VENTRICULOGRAPHY

GORDON BROCKLEHURST (Cambridge) described the use of radioactive isotopes in the diagnosis of hydrocephalus and in investigating the behaviour of cerebrospinal fluid in various pathological states. Observations on cerebrospinal fluid flow were made in 27 patients after the injection of 50 microcuries of radioactive iodinated serum albumin (R.I.S.A.) into the lateral ventricle. He used a combination of serial scanning with a Magna scanner and profile scanning and body counting in a whole body counting chamber at intervals of one, six, and 24 hours. The majority of patients were children with meningo-myeloceles requiring assessment of hydrocephalus within the first few days of closure of the spinal lesion or older children requiring assessment of suspected recurrent hydrocephalus. A few other types of obstructive hydrocephalus were included.

He had found that in the normal, R.I.S.A. was found in the lateral ventricles and fourth at one hour, in the basal cisterns at six hours, and none remained after 24 hours. Body scan showed all the activity in the head at one hour and present elsewhere in the body at significantly high levels at six and 24 hours. In the obstructed case R.I.S.A. remained in the lateral ventricle and none appeared elsewhere in the body at 24 hours.

In three patients with normal flow and 18 patients with evidence of total obstruction these findings correlated excellently with the clinical findings and subsequent progress. In the remaining six patients evidence of partial block also correlated well with the clinical features.

He concluded that failure of R.I.S.A. to reach the surface of the hemispheres in 24 hours was a reliable indication of hydrocephalus and that this abnormality could precede overt clinical signs. He noted that the appearance of R.I.S.A. in the body without evidence of normal flow through the conventional cerebrospinal fluid pathways and some variations in flow patterns within the ventricles suggested that there were other factors influencing the behaviour of cerebrospinal fluid in such patients and that this might complicate the picture of simple obstruction.

MENTAL SYMPTOMS IN PATIENTS WITH ACOUSTIC NEUROMAS

Miss S. M. WOODCOCK (Preston) described the mental symptoms in a series of 31 patients with acoustic neuromas. In this series she had found at least seven patients with mental symptoms and the case histories of these patients were presented. She said that five of these had left-sided tumours and it might be that lesions on the side of the dominant hemisphere were more likely to cause memory disturbance. When E.E.G.s had been done there was a tendency to show temporal lobe abnormalities and this too might be associated with memory disturbance. The ages ranged from 37 to 68 with an average of 55.9 years.

The mental symptoms encountered included personality deterioration, memory disturbance, intellectual deterioration, confusion, depression, euphoria, and psychoneurotic traits. She concluded that these symptoms might be caused by cerebral arteriosclerosis but were most probably due to vascular disturbance from distortion of the brainstem.

MICROGLIOMATOSIS

A. A. MILLER (Preston) said that the classical microglioma arising from cells which represented reticular tissue in the nervous system was a rare tumour and the atypical variety was even rarer and presented a formidable diagnostic problem. The common site was around the fourth ventricle involving the brainstem and cerebellum but they could occur in the cerebral hemispheres or infiltrate the leptomeninges diffusely. He reviewed the literature on this subject and stressed that a diagnostic feature was the impregnation of the more mature cells by silver carbonate stains. He felt that there was a range of tumours in this group from the very anaplastic reticulum cell sarcoma, through the microglioma, to tumours in which the inflammatory elements predominated. He gave case histories of three patients illustrating these three types of tumour. He concluded that the term microglioma was now used in a wider context than formerly and also with a different meaning. It was no longer a distinct entity but one of a number of types within the primary reticuloses of the brain.

THE EARLY MANAGEMENT OF THE SEVERELY INJURED

R. S. GARDEN (Preston) discussed the organization necessary to deal with severely injured patients in the early stages. He noted that his hospital served a population of 350,000 and received an average of 2,000 road accident cases per year. He stressed that the treatment of the gravely injured patient depended largely on the organization of an accident service. In his department they had moved away from the traditional method of staffing by junior resident doctors and the department was now staffed by full-time medical officers, two of whom were on duty at any time of the day or night. This had made it possible to provide consultant cover, to train the younger men in emergency work, and to undertake research.