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Session 1: X-ray: Diagnostic Procedures

1. Amundsen, P., and I. O. Skalpe (Department of Neuroradiology, Ullevål Hospital, Oslo, Norway): *Cervical Myelography with Metrizamide (Amipaque)*.

   The new contrast medium metrizamide (Amipaque) has been used for clinical trial in the Neuroradiological Department, Ullevål Hospital.
   For the lumbar and thoracic areas, there are no problems in obtaining good visualization.
   For the cervical region the contrast may be insufficient due to the fact that the medium mixes very easily with the cerebrospinal fluid during the movement of the lumbar injected contrast medium to the cervical area.
   We have used lateral puncture between C 1 and C 2 for injection of the contrast, and this gives much better filling of the cervical area.
   We have used this both in the prone position and also in the supine position in order to outline the cord and the dentate ligament during stereotaxic cordotomy.


   In cases of atypical trigeminal neuralgia a study of the anatomy along the intracranial course of the trigeminal nerve is indicated.
   The introduction of a new water soluble positive contrast medium, metrizamide, suitable for injection into the subarachnoid space, has made possible radiological investigation by injection of contrast medium through the foramen ovale.
   This method allows very detailed visualization of the structures in Meckel's cave as well as in the cerebellopontine angle.
In some cases cisternography was followed by a phenol block of the Gasserian ganglion, and the effect of this was not interfered with by the contrast medium.

Another important application of the technique is the demonstration of the trigeminal root or ganglion for stereotaxic radiosurgery.

As the anatomical position of the Gasserian ganglion may vary, the method seems of great value as indicated by preliminary experiences.


A prerequisite for successful stereotaxic brain tumour surgery is the exact radiological delineation of the lesion. Until now this has been achieved most commonly by air encephalography, by angiography, or by a combination of both.

The paper describes preliminary experiences with a new water soluble, positive, non-ionic contrast medium (metrizamide) used for target determination during stereotaxic procedures in various types of brain tumour surgery.


The advent of the EMI Scan has much simplified the management of head injuries. Since the phototype machine was installed at the Atkinson Morley’s Hospital in 1972, the necessity for emergency angiograms and exploratory burr holes in this context has declined dramatically. These established investigations have been supplanted by a safe non-invasive technique, in which the living pathology of the brain can be demonstrated: structures are identified and their shapes, sizes, and positions defined by their respective densities. Thus high density intra- or extracerebral haematoma are readily diagnosed, even when they occur in unusual sites. Extracerebral haematoma have a characteristic lens shaped appearance, while acute subdural haematoma are crescentic in outline. Wherever their location, they appear in sharp contrast to the low density of cerebral contusions or chronic subdural haematoma, from which they can be easily differentiated.

The safety of the procedure recommends its sequential use in patients who fail to improve, or deteriorate; and repeated examinations can be useful in monitoring the response to therapy. Under clinical supervision, the quantity and quality of information the method yield during a single comprehensive study are such that it has become the definitive investigation in the victims of cerebral trauma.

Session 2: Hydrocephalus

5. Amacher, A. L. (Department of Clinical Neurological Sciences and Paediatrics, University of Western Ontario, London, Ontario,