The Value of Gas Myelography in the Diagnosis of Syringomyelia

G.B. Bradac
Department of Neuroradiology, Steglitz Clinic, Free University of Berlin, Berlin

Summary. The author describes a new technique for gas myelography. The findings of normal and of syringomyelic cord are shown and discussed.

Valeur de la myelographie gazeuse dans le diagnostic de syringomyélie
Resume. L'auteur décrit une nouvelle technique de myelographie gazeuse. Les images de moelle normale et de syringomyélie sont présentées et discutées.

Publications about the use of gas myelography in the diagnosis of syringomyelia are rare [1, 3, 4, 5, 6, 7, 8]. They have already shown the value of this procedure but nevertheless, the use of gas myelography is rare. This work will demonstrate the results of examinations, performed with our technique, which is a modification of Westberg's technique [8]. Our technique, already reported in a previous paper [1], will be briefly summarized.

The examination is performed under general anaesthesia. First the patient lies in his left side with the upper part of the body a little elevated. After lumbal puncture, gas is injected by eliminating half an amount of spinal fluid. In this position we get a good filling of the anterior and of the posterior subarachnoid space at least in the cervical region. The filling of the posterior subarachnoidal space of the thoracic region is often insufficient, so one can not determine well the posterior outline of the spinal cord in this region. Then the patient is placed in a supine position with the upper part of the body first elevated and afterwards lowered. In this position in normal cases the spinal cord falls a little backwards and the gas accumulates in the anterior subarachnoid space which becomes some mm larger. Usually we do not see a difference between the first and the second supine

Fig. 1. The three positions of the patient in our examination. a) Lateral position. Tomography with vertical X-Ray direction (lateral tomography). b) Supine position with the upper part of the body elevated. First supine position. Tomography with lateral X-Ray direction, (lateral tomography). c) Supine position with the upper part of the body lowered. Second supine position. (Lateral tomography)
Fig. 2. Corresponding pictures in lateral position (a), and in supine position (b). Same findings in both supine positions (normal case).

Fig. 3. Scheme corresponding to Fig. 2.

Fig. 4. Syringomyelia. a) Lateral position: The cord appears rather thin but normal in the cervical and thoracic regions. b) Supine position: The anterior and posterior parts of the subarachnoid space are enlarged; the cord is now very thin. Same findings in the second supine position.