Chapter 4

Parietal and Occipital Tumors
(Figs. 140 to 218)

General Aspects

**Anterior** margin of the parietal lobe is formed by **Sulcus centralis**. This is even more recognizable on the lateral surface using axial slices of MRI, similar to anatomical drawing of Fig. 142 than in sagittal slices, which will be compared with median sagittal slices. Here the dorsal end of the sulcus may be seen, as well as Lobulus paracentralis, which is an irregular cortical complex interposed between the regular shaped Gyrus front. I and the Praecuneus. Praecuneus begins posteriorly, at the typical configurated Fissura parieto-occipitalis and ends with its anterior limit at Lobulus parietalis. These structures may not always be defined. But Sulcus parieto-occipitalis presents a typical configuration immediately anteriorly to Lambda and will be easily identified. Bregma, 4 cm anteriorly to Sulcus centralis, will be easily identified, too. Now considerable errors for location of the Sulcus centralis will be excluded. In future, the most important location of motor function will be exactly localized by performing a functional MRI and/or evoked potentials. If the anatomical conditions are understood, an error is never as severe as an error in localization by computer, if it is not exactly applied.

All methods should be applied, the topographical localization using anthropological landmarks and the computer-assisted functional MRI, as well as the intraoperative techniques for localization.

**Posterior** limit at the lateral surface is unclear, because the end of Sylvian fissure at MRI is unclear. Dorsally the posterior limit is defined by Fissura parieto-occipitalis close to Lambda (Fig. 140 A). It may be compared with a median sagittal slice (Fig. 141). Here the parieto-occipital fissure is well-defined.

**Basal** limit area is the level of the end of Splenium corporis callosi (Fig. 141). This is the Area of Isthmus gyri cinguli.
Fig. 140. General aspects

A Lateral surface of the brain (light area is the parietal lobe). Cerebral structures projected onto the skull, simplified

B Fossa temporalis of the skull (due to Regio temporalis of the head). Fossa temporalis is limited by Linea temp. sup. (= limit of insertion of aponeurosis of temporal muscle). Note the relationships of parietal lobe with Linea temp. (sup.), with Sutura squamosa, with Squama temporalis, and with the Sylvian fissure
Light area: Fossa temp. of the skull. Cerebral structures projected onto the surface of the skull, simplified

Note relationships of the parietal lobe to Sutura coronalis (Bregma)

Dorsomedial point of Sulcus centralis – c –, the end of Pars ascendens of the Sylvian fissure – b –, and Porion – a – are located approximately at one oblique level. The end of sulcus centralis may be defined by Bregma, using it as a landmark, and Porion
The end of the Sylvian fissure may not be recognized at operation but may be seen in MRI. Now it may be determined, if necessary, by two different methods:
- By x-rays of the skull (see measurements at A)
- By MRI (measurements as A, and connecting line to Porion on patient’s head)