

Case 1

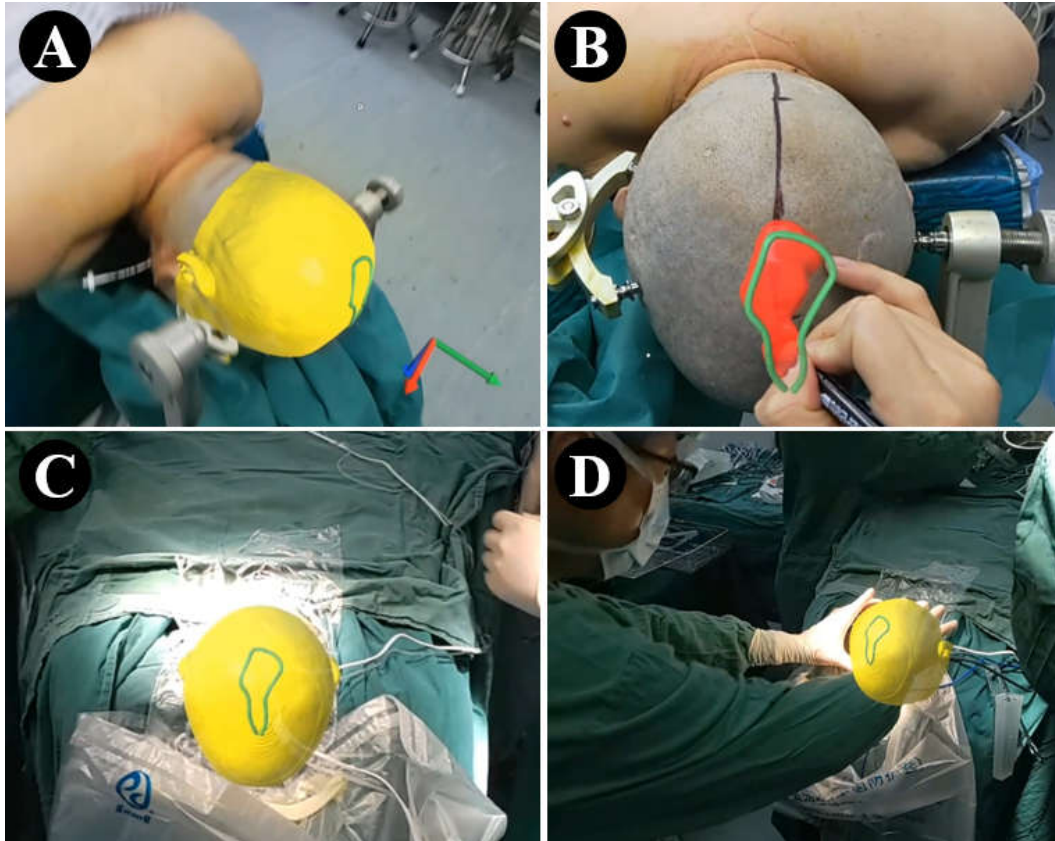


Fig. 1. Surgical localization of a parasagittal meningioma.

(A) After anesthesia, the patient's head was fixed and navigation registration was completed.

(B) With the skin model hidden, the boundary of the lesion was outlined on the patient's scalp using a marker pen based on the mixed reality model.

(C, D) After surgical draping, the mixed reality localization was re-verified with the patient's head remaining fixed.

Case 2

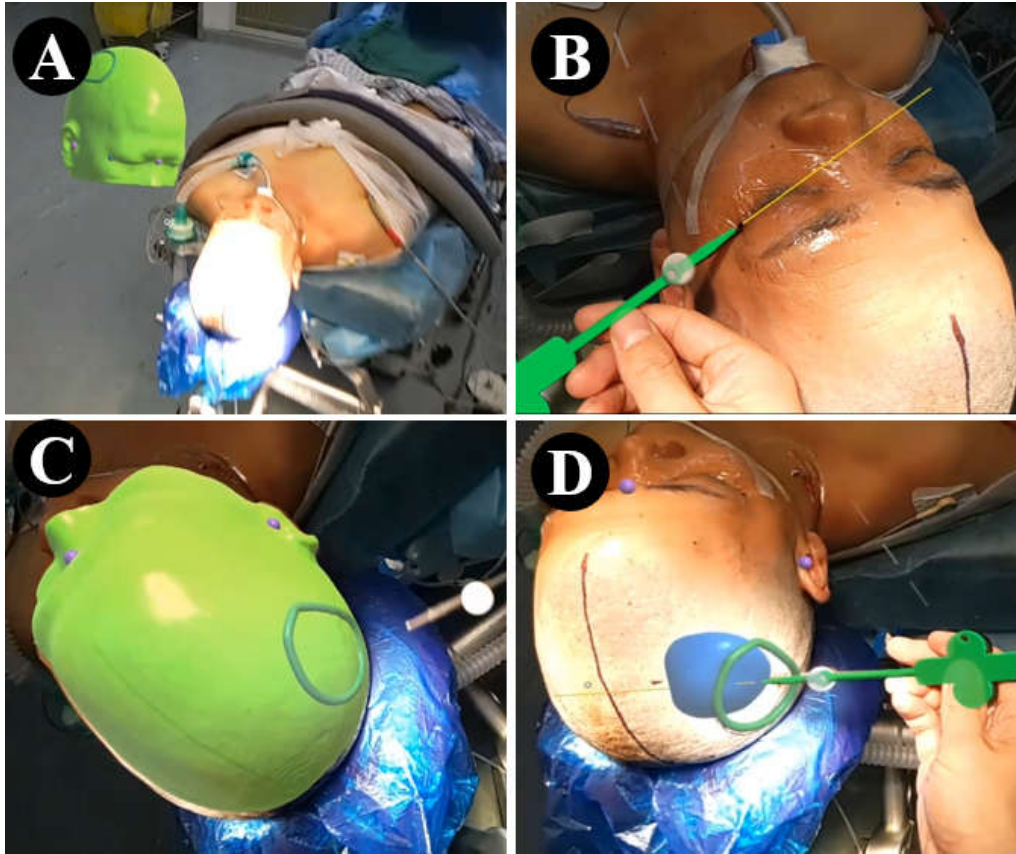


Fig. 2. Localization of a subcortical tumor.

(A) After anesthesia, mixed reality navigation was initiated in preparation for navigation registration.

(B) Using the pre-set markers, the surgical probe tool was used to select the corresponding points on the patient's head.

(C) Navigation registration was completed.

(D) With the skin model hidden, the lesion boundaries were assessed according to the planned surgical approach.

Case 3

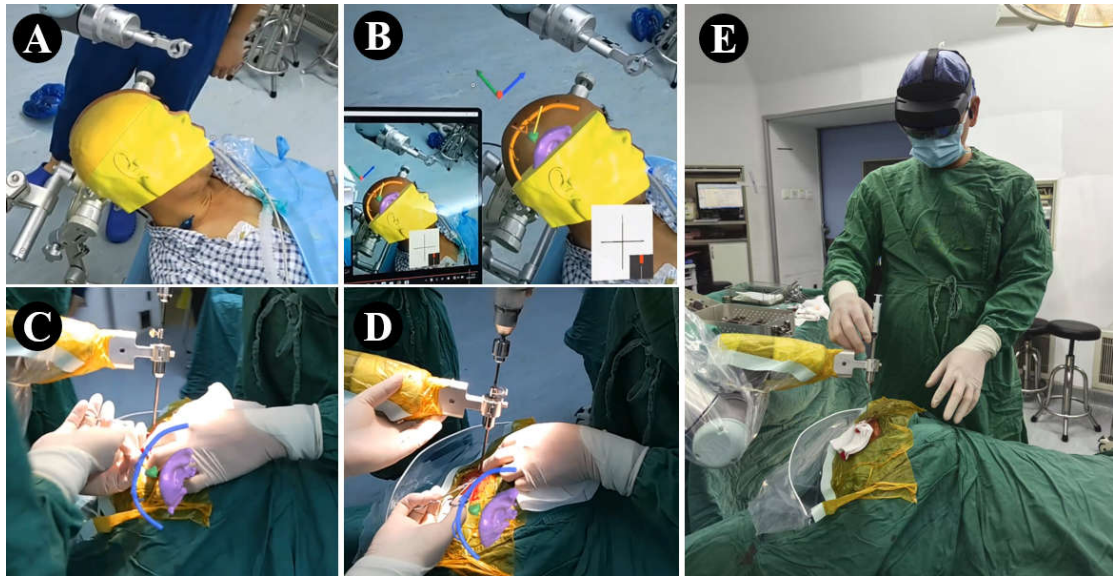


Fig. 3. Localization attempt for a deep-seated brain lesion.

(A, B) After anesthesia, navigation registration was completed. For this patient, the scalp reconstruction was divided into upper and lower parts; panel B shows the view with the upper scalp model hidden.

(C, D) Intraoperative puncture toward the lesion demonstrated that the puncture trajectory set by conventional navigation aligned with the target defined in mixed reality, with the target point shown in green.

(E) Third-person view of the operating surgeon.