

Surgical Management and Adjuncts: An Issue of Neurosurgery Clinics of North America

This issue of Neurosurgery Clinics, guest edited by Drs. Daniel K. Resnick and Nader Sanai, will focus on Surgical Management and Adjuncts. Articles will include the following:



Glioblastoma, Part I: Surgical Management and Adjuncts, An Issue of Neurosurgery Clinics of North America, E-Book (The Clinics: Surgery) by Don R. Lipsitt

★★★★★ 5 out of 5

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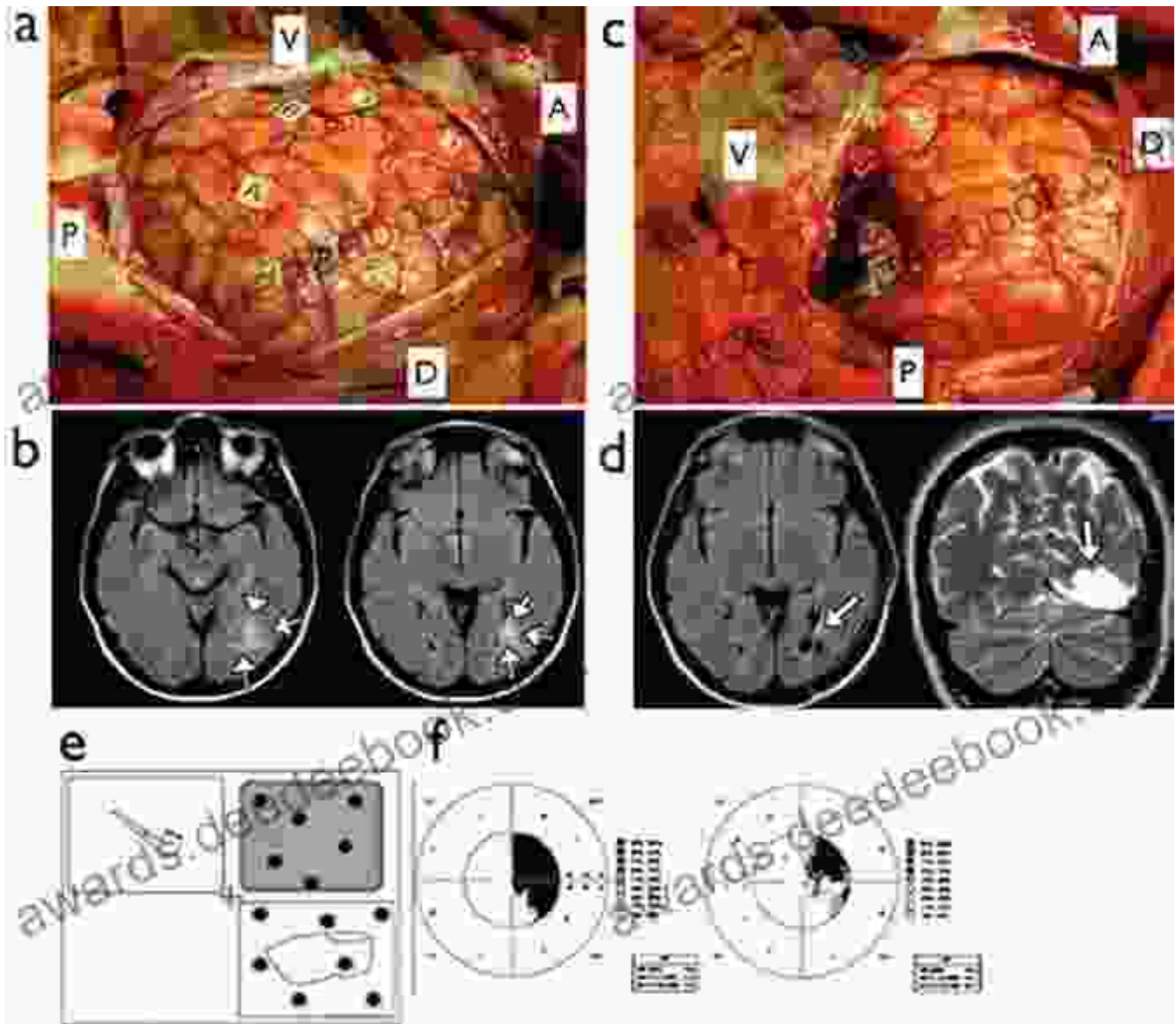


- Intraoperative MRI for glioma surgery
- Update on 5-ALA guided surgery for malignant glioma
- Radionuclide-guided surgery for brain tumors
- Fluorescence-guided surgery for brain tumors
- Ultrasound-guided surgery for brain tumors
- Laser interstitial thermal therapy for brain tumors
- Radiofrequency ablation for brain tumors

- Gamma Knife radiosurgery for brain tumors
- CyberKnife radiosurgery for brain tumors
- LINAC-based SRS/SRT for brain tumors

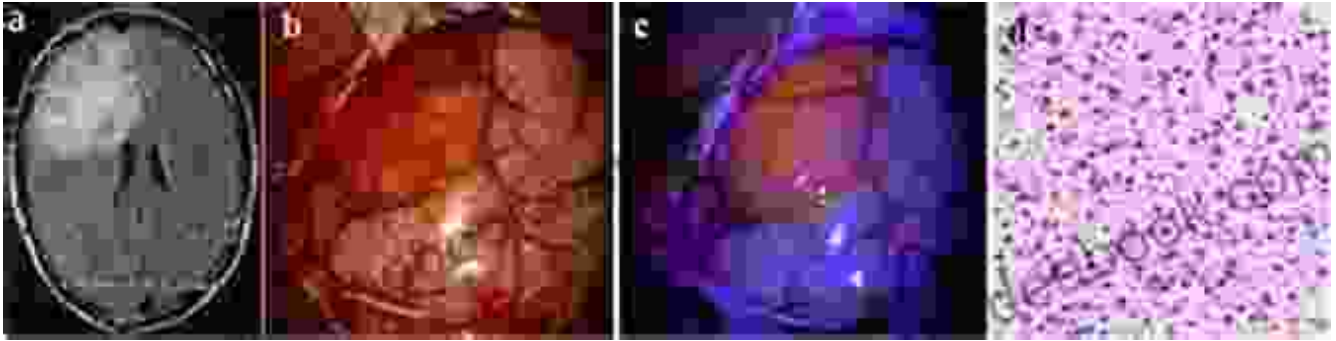
Intraoperative MRI for Glioma Surgery

Intraoperative MRI (iMRI) is a powerful tool that can be used to guide glioma surgery. iMRI allows the surgeon to visualize the tumor in real time, which can help to ensure that the tumor is completely resected. iMRI can also be used to identify and avoid critical structures, such as the optic nerve and the brainstem. As a result, iMRI can help to improve the safety and efficacy of glioma surgery.



Update on 5-ALA Guided Surgery for Malignant Glioma

5-aminolevulinic acid (5-ALA) is a fluorescent dye that can be used to visualize malignant gliomas during surgery. 5-ALA is taken up by glioma cells and then converted to protoporphyrin IX (PpIX), which fluoresces under blue light. This fluorescence allows the surgeon to distinguish between tumor and normal tissue, which can help to ensure that the tumor is completely resected. 5-ALA guided surgery has been shown to improve the extent of resection and survival in patients with malignant glioma.



5-ALA guided surgery for malignant glioma. The tumor is shown in red.

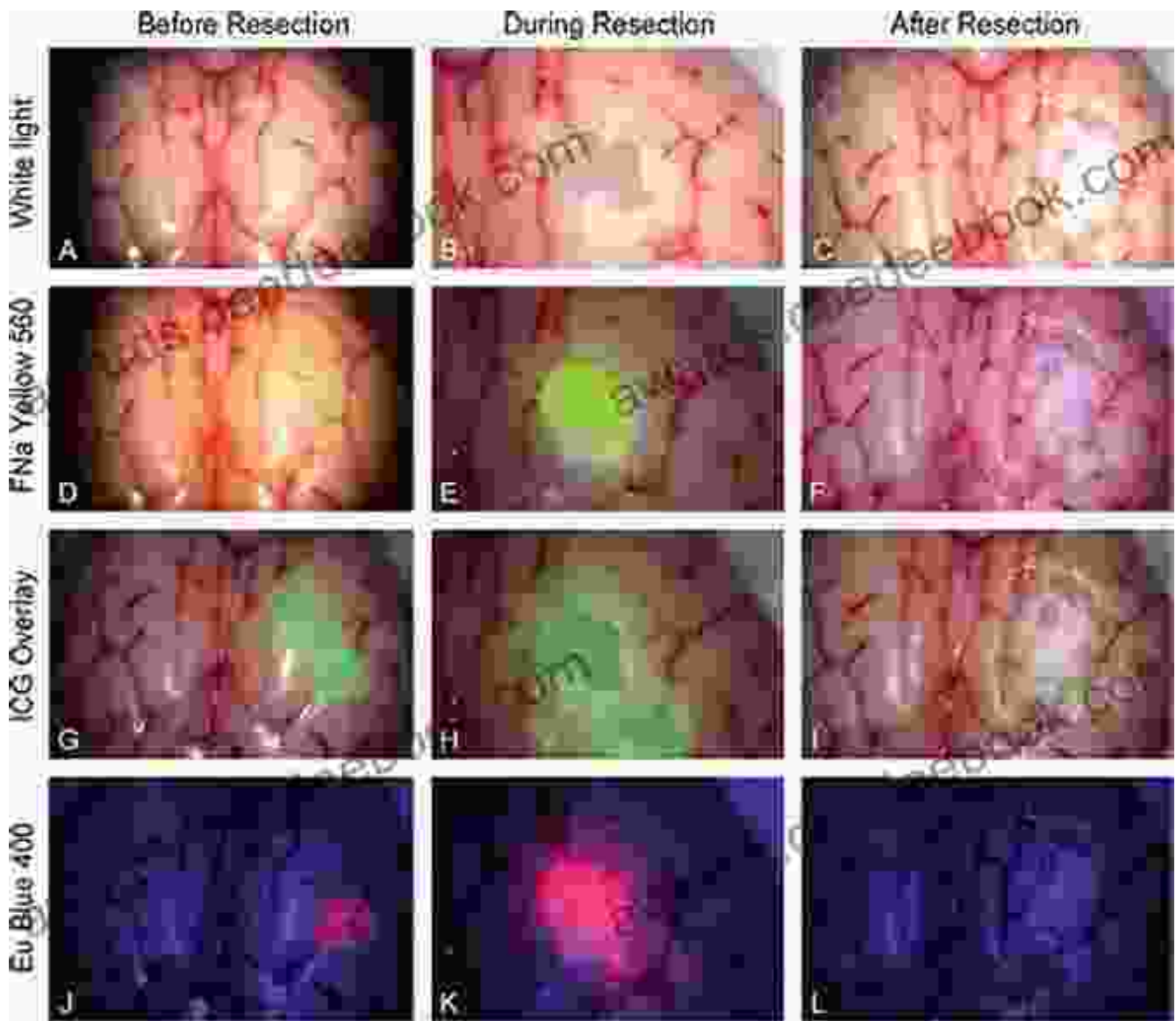
Radionuclide-Guided Surgery for Brain Tumors

Radionuclide-guided surgery is a technique that uses radioactive isotopes to guide brain tumor surgery. Radionuclides are injected into the tumor prior to surgery, and then a gamma camera is used to track the isotopes during surgery. This allows the surgeon to visualize the tumor in real time and to ensure that it is completely resected. Radionuclide-guided surgery has been shown to improve the extent of resection and survival in patients with brain tumors.



Fluorescence-Guided Surgery for Brain Tumors

Fluorescence-guided surgery is a technique that uses fluorescent dyes to visualize brain tumors during surgery. Fluorescent dyes are injected into the tumor prior to surgery, and then a special light source is used to excite the dyes. This causes the tumor to fluoresce, which allows the surgeon to distinguish between tumor and normal tissue. Fluorescence-guided surgery has been shown to improve the extent of resection and survival in patients with brain tumors.



Fluorescence-guided surgery for brain tumors. The tumor is shown in red.

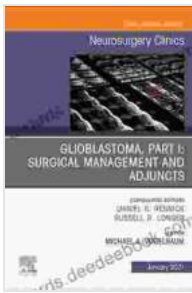
Ultrasound-Guided Surgery for Brain Tumors

Ultrasound-guided surgery is a technique that uses ultrasound to visualize brain tumors during surgery. Ultrasound is a high-frequency sound wave that can be used to create images of the brain. Ultrasound-guided surgery allows the surgeon to visualize the tumor in real time and to ensure that it is completely resected. Ultrasound-guided surgery has been shown to improve the extent of resection and survival in patients with brain tumors.



Laser Interstitial Thermal Therapy for Brain Tumors

Laser interstitial thermal therapy (LITT) is a technique that uses laser energy to destroy brain tumors.



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