Supplementary Figure 1: Survey distributed to Canadian neurosurgeons in 2020 to evaluate the current practice patterns in treatment of LGG and the influence of the RTOG9802 trial on these trends.

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Neurosurgical management of adult diffuse low-grade gliomas (LGG)* in Canada following the RTOG 9802 Trial

This survey is for a research study conducted by investigators at the Division of Neurosurgery at the University of British Columbia.

The study consists of a brief survey that will take about **5 minutes** to complete. This survey can also be completed on your mobile device.

All information collected will be kept **confidential and anonymous**.

If the survey cannot be viewed properly in your browser, please try temporarily disabling any adblocking software or try a different browser.

*Low-grade gliomas refer to astrocytomas or oligodendrogliomas classified by the World Health Organization as grade II.

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1. How many years have you been in practice?

- ◯ < 5 years
- ◯ 5-15 years
- ◯ 15-25 years
- ◯ > 25 years

2. What is your work setting?

- ◯ Academic
- ◯ Community
- ◯ Hybrid (academic & community)

3. How many patients with an LGG do you follow in your clinic (pre or post-operatively)?

- ◯ <10
- ◯ 11-20
- ◯ 20-50
- ◯ >50

4. How many LGG do you biopsy in an average year?

- ◯ 0
- ◯ 1-5
- ◯ 6-10
- ◯ >10

5. How many LGG do you resect in an average year?

- ◯ 0
- ◯ 1-5
- ◯ 6-10
- ◯ >10

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6. What intra-operative methods or technologies do you employ when resecting tumors close to eloquent brain? (please select all that apply)

- [ ] Motor evoked potentials (MEP)
- [ ] Phase reversal
- [ ] Functional MRI
- [ ] Awake craniotomy
- [ ] Other

- [ ] None

7. What is your initial management of an **asymptomatic** LGG (presumed based upon imaging characteristics)?

- ◯ Referral to oncology and serial imaging
- ◯ Perform a stereotactic biopsy
- ◯ Perform an open biopsy
- ◯ Aggressive resection
- ◯ Other

8. What is your initial management of a **symptomatic** LGG?

- ◯ Referral to oncology and serial imaging
- ◯ Perform a stereotactic biopsy
- ◯ Perform an open biopsy
- ◯ Aggressive resection
- ◯ Other

9. What biomarkers are routinely assessed for LGG patients at your center? (please select all that apply)

- ☐ 1p/19q status
- ☐ IDH immunohistochemistry
- ☐ p53
- ☐ ATRX
- ☐ IDH sequencing in select cases

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The RTOG9802 study concluded that in patients with LGG who were younger than 40 and had undergone subtotal resection or those older than 40, progression-free survival and overall survival were longer when chemotherapy (procarbazine, vincristine and lomustine) was combined with radiation therapy (compared to radiation therapy alone).

Adjuvant Rx = chemotherapy and radiation therapy

10. To what extent has the RTOG9802 study results altered your approach to LGG?
[For < 40 yrs age, no adjuvant Rx for gross total resection (GTR),
For > 40 yrs age, adjuvant Rx regardless of extent of resection]

- ◯ Very much
- ◯ Somewhat
- ◯ Not at all

11. For a patient < 40 years of age, with a 5-10% residual tumour after attempted resection, you would:

- ◯ Re-operate as soon as possible
- ◯ Obtain serial imaging and re-operate at progression
- ◯ Obtain serial imaging and refer to neuro-oncology at progression

- ◯ Refer to neuro-oncology now

12. For a patient > 40 years of age, with a gross total resection, you would:

- ◯ Obtain serial imaging, re-operate at progression
- ◯ Obtain serial imaging and refer to neuro-oncology at progression
- ◯ Refer to neuro-oncology now

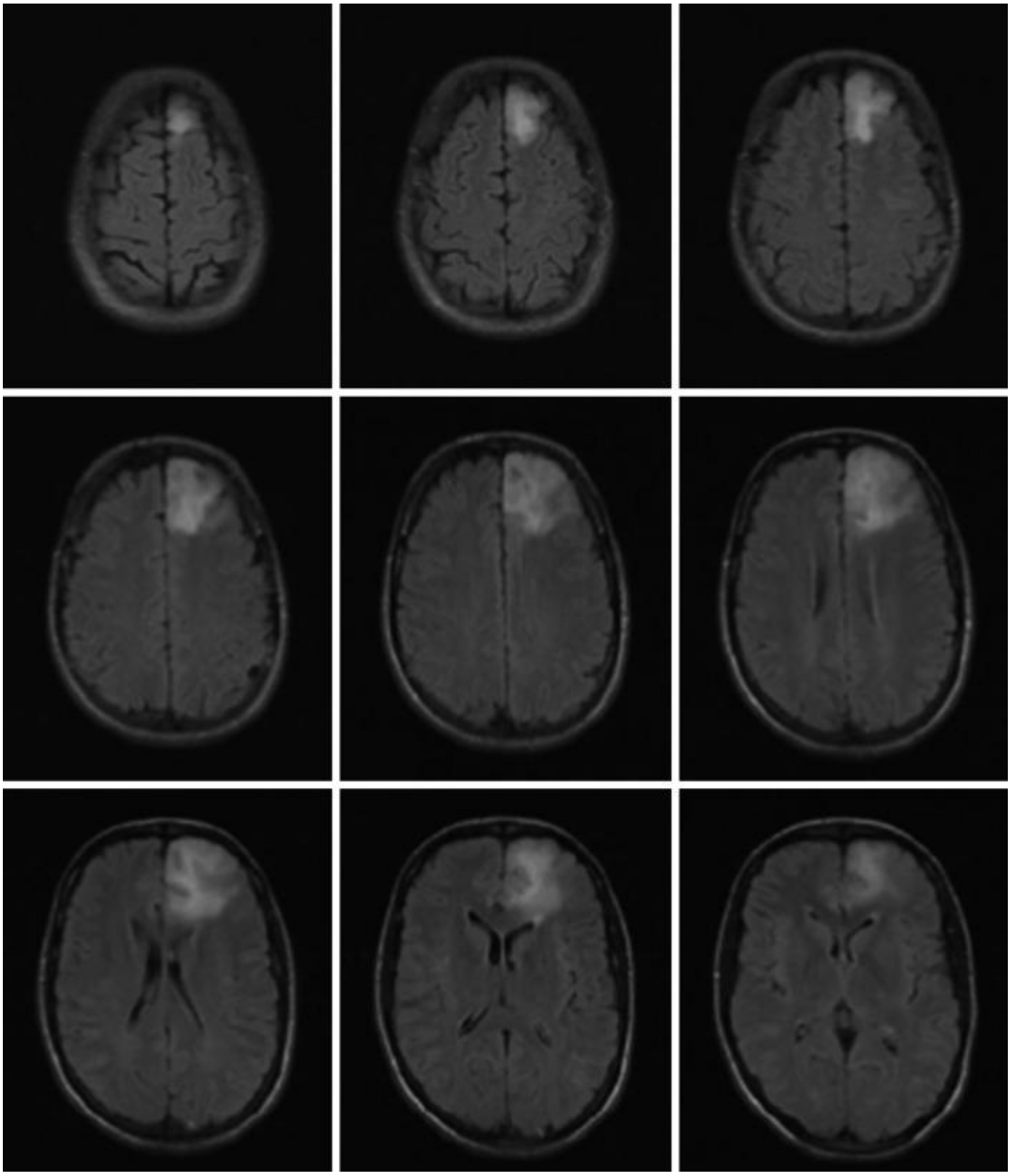
13. Which factors do you consider to be most important when deciding to proceed with adjuvant radiation/chemotherapy?

- ☐ Age > 40 years
- ☐ Any residual tumor
- ☐ Significant residual tumor
- ☐ The IDH mutation status
- ☐ The 1p/19q codeletion status

14. Which recommendations of the RTOG 9802 trial do you think should be reassessed/potentially revised?

- ☐ None, the current recommendations are appropriate
- ☐ The emphasis on patient age
- ☐ The radiation dose administered
- ☐ The chemotherapeutic agents administered
- ☐ The lack of differentiation between astrocytoma and oligodendroglioma cases

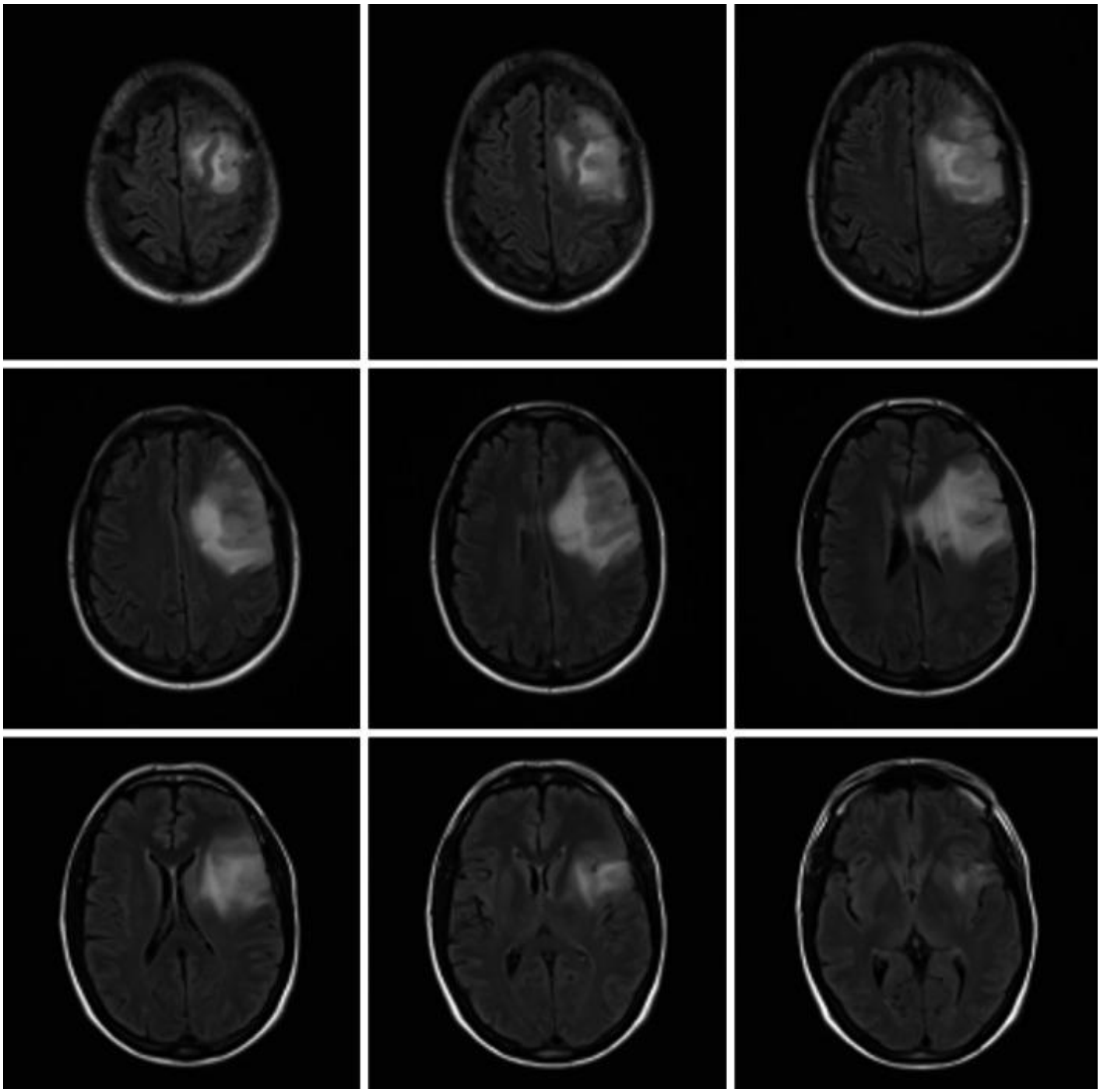
Case 1 - 24 year old right hand dominant female patient with a history of 2 generalized seizures. MRI FLAIR sequence is shown. There was NO enhancement with gadolinium.



15. How would you initially manage this patient?

- ◯ Obtain serial imaging
- ◯ Refer to neuro-oncology
- ◯ Perform a stereotactic biopsy
- ◯ Perform an open biopsy
- ◯ Maximal safe resection
- ◯ Other

Case 2 - a 52 year old male, right hand dominant, presents with simple partial seizures with motorized aphasia. Neurologically intact. MRI FLAIR sequence is shown. There was NO enhancement with gadolinium.

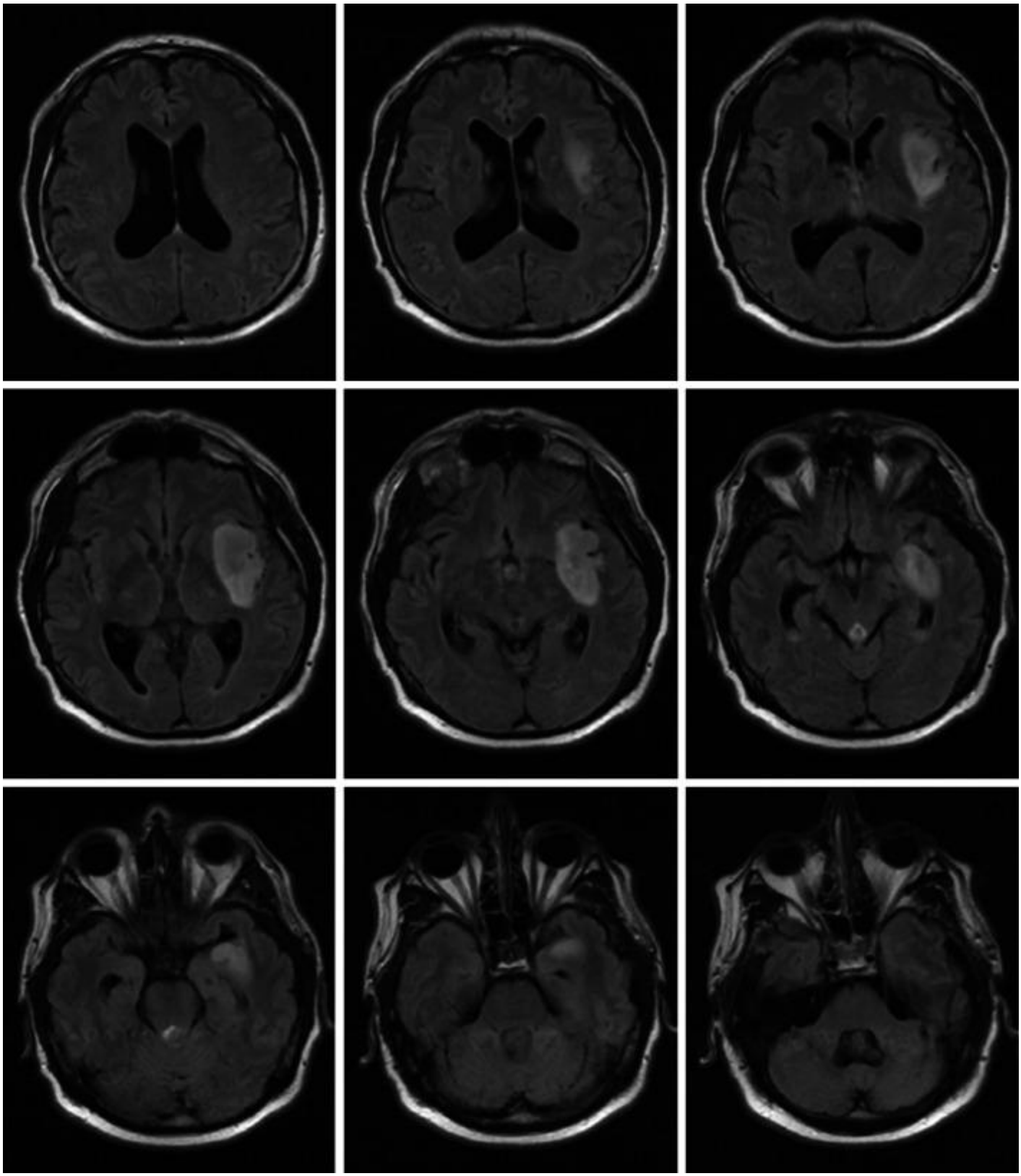


16. How would you initially manage this patient?

- ◯ Obtain serial imaging
- ◯ Refer to neuro-oncology
- ◯ Perform a stereotactic biopsy
- ◯ Perform an open biopsy

- ◯ Maximal safe resection
- ◯ Other

Case 3 - a 49 year old male right hand dominant presents with complex-focal seizures, without any neurological deficit. MRI FLAIR sequence is shown. There was NO enhancement with gadolinium.



17. How would you initially manage this patient?

- ◯ Obtain serial imaging
- ◯ Refer to neuro-oncology
- ◯ Perform a stereotactic biopsy
- ◯ Perform an open biopsy
- ◯ Maximal safe resection
- ◯ Other

Imaging cases obtained from Seiz et al (2011) Management of patients with low-grade gliomas—a survey among German neurosurgical departments. *Cent Eur Neurosurg* 72:186–191.

Previous Canadian multi-center survey: Khan et al (2016) Neurosurgical management of adult diffuse low grade gliomas in Canada: a multi-center survey. J Neurooncol 126(1):137-149

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Thanks for taking a few minutes to help all of us gain further insights into this topic!

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