CASE 2017-2

Williamson D, Badve C, Hdeib A, Rogers L, Couce M, Cohen ML
The presenter has no financial relationships to disclose.
A cosmic cataclysm results in the creation of all observable matter and energy.

Anterior left frontal lobe metastasis managed with left frontal craniotomy followed by resection, whole brain radiation, salvage chemotherapy, and gamma knife.

Presents with worsening speech and seizures, MRI: five cystic masses and diffuse T2 hyperintense signal throughout the left cerebral hemisphere, diffuse volume loss.

Follow-up CT: new effacement of the left hemicerebral sulci, partial effacement of the frontal horn of the left lateral ventricle, and less than 3 mm of left to right midline shift.

Biopsy performed, consistent with radiation injury with marked vascular hyalinization accompanied by reactive gliosis with degenerative features.

MRI: increased gyral swelling and general enhancement.

Readmitted with intractable tonic-clonic seizures.

Biopsy for this case.
H&E section from November 2016 biopsy
1. Provide 3 possible diagnoses in order of probability.

2. Postulate 2 possible pathogenic mechanisms responsible for the cytological abnormalities seen within the lesion.

3. Name 2 eminent California neuropathologists on whose shoulders we are now standing.
Provide 3 possible diagnoses in order of probability.

1. Glioneuronal tumor (radiation-induced)

2. Cortical dysplasia (radiation-induced)

3. Recurrent or residual germ cell tumor (mature glioneuronal component of teratoma only)
Additional Immunostaining

- p62 – positive
- Ki-67 – rare glial nuclei
- β-amyloid – negative
- α-synuclein – negative
- TDP-43 – negative

Diagnosis

CORTICAL DYSPLASIA WITH NEUROFIBRILLARY DEGENERATION (13 years after radiotherapy for metastatic germ cell tumor)
Postulate 2 possible pathogenetic mechanisms responsible for the cytological abnormalities seen within the lesion.
Name 2 eminent California neuropathologists on whose shoulders we are now standing.

*Delayed effects of radiation on the human central nervous system*

"Early" and "late" delayed reactions


*Neurology, 1964*


**REGULAR PAPER**

T. Duong · M.J. De Rosa · V. Poukens · H.V. Vinters

R.S. Fisher

*Neuronal cytoskeletal abnormalities in human cerebral cortical dysplasia*
<table>
<thead>
<tr>
<th>Case</th>
<th>Age at Initial Diagnosis</th>
<th>Original Diagnosis</th>
<th>Interval (years)</th>
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<tr>
<td>Lampert, 1964</td>
<td>19</td>
<td>&quot;Astroblastoma&quot;</td>
<td>12</td>
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<td>Caccamo, 1989</td>
<td>25</td>
<td>Pitutary adenoma</td>
<td>6</td>
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<tr>
<td>Gaughen, 2009</td>
<td>54</td>
<td>Anaplastic oligodendriglioma</td>
<td>7</td>
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<td>Shaikh, 2017 (AAN abstract)</td>
<td>25</td>
<td>Glioblastoma</td>
<td>2</td>
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<td>DSS 2017-2</td>
<td>36</td>
<td>Metastatic GCT</td>
<td>13</td>
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