

**Table 1: Lesional MRI findings (MRI-positive subgroup) and unilateral EEG (*n* = 22)**

|                                                             |                                             |
|-------------------------------------------------------------|---------------------------------------------|
| <sup>1</sup> H-MRS n.p.: 3/22 (14%)                         | <sup>1</sup> H-MRS ipsilateral: 13/22 (59%) |
| SPECT* n.p.: 1/19 (5%)                                      | SPECT* ipsilateral: 13/19 (68%)             |
| <sup>1</sup> H-MRS contralateral: 1/22 (5%)                 | <sup>1</sup> H-MRS bitemporal: 5/22 (23%)   |
| SPECT* contralateral: 2/19 (11%)                            | SPECT* bitemporal: 3/19 (16%)               |
| <sup>1</sup> H-MRS and SPECT ipsilateral: 14/19 (74%)       |                                             |
| <sup>1</sup> H-MRS or SPECT ipsilateral: 19/19 (100%)       |                                             |
| Neither <sup>1</sup> H-MRS nor SPECT ipsilateral: 0/19 (0%) |                                             |

**Note:**—n.p. indicates no pathologic findings, metabolites of <sup>1</sup>H-MRS in normal range; EEG, electroencephalography; SPECT, single-photon emission CT; MRS, magnetic resonance spectroscopy. Summarized sensitivity: <sup>1</sup>H-MRS, 82%; SPECT 84%.  
\* Ictal or interictal findings.

**Table 2: Nonlesional MRI (MRI-negative subgroup) and unilateral EEG (*n* = 14)**

|                                                          |                                            |
|----------------------------------------------------------|--------------------------------------------|
| <sup>1</sup> H-MRS n.p.: 2/14 (17%)                      | <sup>1</sup> H-MRS ipsilateral: 8/14 (57%) |
| SPECT* n.p.: 0/12 (0%)                                   | SPECT* ipsilateral: 5/12 (42%)             |
| <sup>1</sup> H-MRS contralateral: 2/14 (14%)             | <sup>1</sup> H-MRS bitemporal: 2/14 (14%)  |
| SPECT* contralateral: 4/12 (33%)                         | SPECT* bitemporal: 3/12 (25%)              |
| <sup>1</sup> H-MRS and SPECT ipsilateral: 8/12 (67%)     |                                            |
| <sup>1</sup> H-MRS or SPECT ipsilateral: 12/12 (100%)    |                                            |
| Neither <sup>1</sup> H-MRS nor SPECT ipsilateral: 0 (0%) |                                            |

**Note:**—n.p. indicates no pathologic findings, metabolites of <sup>1</sup>H-MRS in normal range; EEG, electroencephalography; SPECT, single-photon emission CT; MRS, magnetic resonance spectroscopy. Summarized sensitivity: <sup>1</sup>H-MRS 71%, SPECT 67%.  
\* Ictal or interictal findings.

**Table 3: Nonlesional MRI (MRI-negative subgroup) and bilateral EEG discharges (*n* = 10)**

|                                      |                                           |
|--------------------------------------|-------------------------------------------|
| <sup>1</sup> H-MRS n.p.: 1/10 (10%)  | <sup>1</sup> H-MRS left: 2/10 (20%)       |
| SPECT* n.p.: 0/9 (0%)                | SPECT* right: 2/9 (22%)                   |
| <sup>1</sup> H-MRS right: 2/10 (20%) | <sup>1</sup> H-MRS bitemporal: 5/10 (50%) |
| SPECT* left: 4/9 (44%)               | SPECT* bitemporal: 3/9 (33%)              |

**Note:**—n.p. indicates no pathologic findings, metabolites of <sup>1</sup>H-MRS in normal range; EEG, electroencephalography; SPECT, single-photon emission CT; MRS, magnetic resonance spectroscopy. Summarized sensitivity <sup>1</sup>H-MRS 70%, SPECT 67%.  
\* Ictal or interictal findings.

| Table 4: Patients with positive findings in MRI and unilateral EEG focus |       |                    |       |                   |                    |                 |                       |                       |                        |
|--------------------------------------------------------------------------|-------|--------------------|-------|-------------------|--------------------|-----------------|-----------------------|-----------------------|------------------------|
| Patient No.                                                              | EEG   | EEG Data           | MRI   | SPECT*            | <sup>1</sup> H-MRS | OP <sup>†</sup> | 3 Months <sup>‡</sup> | 6 Months <sup>‡</sup> | 12 Months <sup>‡</sup> |
| 1                                                                        | Left  | Interictal + ictal | Left  | Left              | Left               | Yes             | 1B                    | 1B                    | 1B                     |
| 2                                                                        | Left  | Interictal + ictal | Left  | Bitemporal        | n.p.               | No              |                       |                       |                        |
| 3                                                                        | Left  | Interictal + ictal | Left  | Left              | Left               | No              |                       |                       |                        |
| 4                                                                        | Left  | Interictal + ictal | Left  | Left              | Left               | Yes             |                       | 1B                    | 1A                     |
| 5                                                                        | Left  | Interictal + ictal | Left  |                   | Left               | Yes             |                       |                       |                        |
| 6                                                                        | Left  | Interictal + ictal | Left  | Left              | Left               | Yes             | 2B                    | 2B                    | 2B                     |
| 7                                                                        | Left  | Interictal + ictal | Left  |                   | Left               | Yes             | 1B                    | 1B                    | 1B                     |
| 8                                                                        | Left  | Interictal + ictal | Left  | Left              | Bitemporal         | Yes             | 2A                    | 2B                    | 2A                     |
| 9                                                                        | Left  | Interictal + ictal | Left  | Right             | Left               | No              |                       |                       |                        |
| 10                                                                       | Left  | Interictal + ictal | Left  | Left              | Left               | Yes             | 1B                    | 1B                    | 1B                     |
| 11                                                                       | Left  | Interictal + ictal | Left  | Left              | n.p.               | Yes             |                       |                       | 2A                     |
| 12                                                                       | Left  | Interictal + ictal | Left  | Bitemporal        | Left               | Yes             | 1A                    | 1A                    |                        |
| 13                                                                       | Left  | Interictal + ictal | Left  | Left              | Left               | Yes             | 2B                    | 2B                    | 2B                     |
| 14                                                                       | Left  | Interictal + ictal | Left  | Left              | Right              | No              |                       |                       |                        |
| 15                                                                       | Left  | Interictal + ictal | Left  | Left              | Bitemporal         | No              |                       |                       |                        |
| 16                                                                       | Left  | Interictal         | Left  | Left <sup>§</sup> | Bitemporal         | Yes             | 2A                    | 2A                    | 3A                     |
| 17                                                                       | Left  | Interictal         | Left  | n.p.              | n.p.               | No              |                       |                       |                        |
| 18                                                                       | Left  | Interictal         | Left  | Left              | Left               | No              |                       |                       |                        |
| 19                                                                       | Right | Interictal + ictal | Right | Bitemporal        | Right              | No              |                       |                       |                        |
| 20                                                                       | Right | Interictal + ictal | Right |                   | Bitemporal         | Yes             | 1A                    | 1A                    | 1A                     |
| 21                                                                       | Right | Interictal + ictal | Right | Left              | Bitemporal         | Yes             | 1A                    | 1A                    | 1A                     |
| 22                                                                       | Right | Interictal + ictal | Right | Right             | Right              | Yes             | 1A                    | 1A                    |                        |

**Note:**—n.p. indicates no pathologic findings, metabolites of <sup>1</sup>H-MRS in normal range; EEG, electroencephalography; SPECT, single-photon emission CT; MRS, magnetic resonance spectroscopy; OP, operation.

\* Ictal or interictal findings.

<sup>†</sup> Elective hippocampectomy.

<sup>‡</sup> Number of months and classification of postoperative outcome according to Engel et al.<sup>11</sup>

<sup>§</sup> Additional ictal SPECT.

| Table 5: Patients with positive MRI and bitemporal EEG findings |            |                    |       |                    |                    |                 |
|-----------------------------------------------------------------|------------|--------------------|-------|--------------------|--------------------|-----------------|
| Patient No.                                                     | EEG        | EEG Data           | MRI   | SPECT*             | <sup>1</sup> H-MRS | OP <sup>†</sup> |
| 23                                                              | Bitemporal | Interictal + ictal | Right | Right <sup>‡</sup> | Right              | Yes             |
| 24                                                              | Bitemporal | Interictal + ictal | Right | Left               | Right              | No              |
| 25                                                              | Bitemporal | Interictal         | Right | n.p.               | Right              | No              |

**Note:**—n.p. indicates no pathologic findings, metabolites of <sup>1</sup>H-MRS in normal range; EEG, electroencephalography; SPECT, single-photon emission CT; MRS, magnetic resonance spectroscopy; OP, operation.

\* Ictal or interictal findings.

<sup>†</sup> Elective hippocampectomy.

<sup>‡</sup> Additional ictal SPECT.

| Table 6: Patients with negative MRI findings and unilateral EEG Focus |       |                    |                    |                    |                 |
|-----------------------------------------------------------------------|-------|--------------------|--------------------|--------------------|-----------------|
| Patient No.                                                           | EEG   | EEG Data           | SPECT*             | <sup>1</sup> H-MRS | OP <sup>†</sup> |
| 1                                                                     | Left  | Interictal + ictal | Bitemporal         | Bitemporal         | No              |
| 2                                                                     | Left  | Interictal + ictal | Bitemporal         | Left               | No              |
| 3                                                                     | Left  | Interictal + ictal | Right              | Left               | No              |
| 4                                                                     | Left  | Interictal + ictal | Left               | Left               | No              |
| 5                                                                     | Left  | Interictal         |                    | Left               | No              |
| 6                                                                     | Left  | Interictal         | Left               | Left               | No              |
| 7                                                                     | Left  | Interictal         | Bitemporal         | n.p.               | No              |
| 8                                                                     | Left  | Ictal              | Left <sup>‡</sup>  | Bitemporal         | Yes             |
| 9                                                                     | Right | Ictal              | Right <sup>‡</sup> | Right              | No              |
| 10                                                                    | Right | Interictal         |                    | Right              | No              |
| 11                                                                    | Right | Interictal         | Right              | n.p.               | No              |
| 12                                                                    | Right | Interictal         | Left               | Right              | No              |
| 13                                                                    | Right | Interictal + ictal | Left               | Left               | No              |
| 14                                                                    | Right | Interictal + ictal | Left               | Left               | No              |

**Note:**—n.p. indicates no pathologic findings, metabolites of <sup>1</sup>H-MRS in normal range; EEG, electroencephalography; SPECT, single-photon emission CT; MRS, magnetic resonance spectroscopy; OP, operation.

\* Ictal or interictal findings.

<sup>†</sup> Elective hippocampectomy.

<sup>‡</sup> Additional ictal SPECT.

| Table 7: Patients with MRI-negative findings and bitemporal EEG Focus |                    |                   |                    |                 |
|-----------------------------------------------------------------------|--------------------|-------------------|--------------------|-----------------|
| Patient No.                                                           | EEG                | SPECT*            | <sup>1</sup> H-MRS | OP <sup>†</sup> |
| 15                                                                    | Interictal + ictal | Right             | Bitemporal         | No              |
| 16                                                                    | Interictal + ictal | Right             | Bitemporal         | No              |
| 17                                                                    | Interictal + ictal | Bitemporal        | Bitemporal         | No              |
| 18                                                                    | Interictal + ictal | Bitemporal        | Left               | No              |
| 19                                                                    | Interictal + ictal | Left              | Right              | No              |
| 20                                                                    | Interictal + ictal | Bitemporal        | Bitemporal         | No              |
| 21                                                                    | Interictal + ictal |                   | Right              | No              |
| 22                                                                    | Interictal + ictal | Left <sup>‡</sup> | Left               | No              |
| 23                                                                    | Interictal + ictal | Left <sup>‡</sup> | Bitemporal         | No              |
| 24                                                                    | Interictal + ictal | Left              | n.p.               | No              |

**Note:**—n.p. indicates no pathologic findings, metabolites of <sup>1</sup>H-MRS in normal range; EEG, electroencephalography; SPECT, single-photon emission CT; MRS, magnetic resonance spectroscopy; OP, operation.

\* Ictal or interictal findings.

<sup>†</sup> Elective hippocampectomy.

<sup>‡</sup> Additional ictal SPECT.