|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Gender** | **Age** | **Lesion Hemisphere** | **Lesion Size (cm)** | **Language Function at Admission** | **Language Function right before fMRI** | **Time of fMRI from admission (Day)** |
| M | 51 | L | 1.70ⅹ1.13 | 1 | 4 | 15 |
| F | 59 | R | 2.45ⅹ1.11 | 2 | 5 | 17 |
| M | 44 | R | 2.80ⅹ1.15 | 1 | 5 | 16 |
| F | 65 | L | 1.70ⅹ1.01 | 1 | 5 | 16 |
| F | 47 | L | 1.37ⅹ0.94 | 1 | 5 | 15 |
| M | 67 | Both | 1.59ⅹ1.21(L);0.6ⅹ0.79 | 1 | 4 | 18 |
| F | 57 | L | 1.44ⅹ0.85 | 1 | 5 | 17 |
| M | 49 | L | 1.14ⅹ0.74 | 2 | 5 | 19 |
| M | 70 | L | 2.8ⅹ0.83 | 1 | 4 | 16 |
| M | 62 | Both | 1.57ⅹ0.9(L);1.19ⅹ0.84 | 1 | 4 | 15 |
| F | 48 | L | 1.49ⅹ0.74 | 1 | 5 | 20 |
| M | 67 | R | 1.11ⅹ0.8 | 2 | 5 | 18 |

**Table S1** Clinical characteristics of patients.

**Language Function Assessment**

All tests are conducted in mandarin Chinese.

I. Spontaneous Speech

1.How Are You Today?

2.Have You Been Here Before?

3.What Is Your Name?

4.What Is Your Address?

5.What Is Your Occupation?

6.Tell Me A Little About Why You Are Here?or What Seems To Be The Trouble?

II. Auditory Verbal Comprehension

A. Yes/No Questions

Explain to the patient that you are going to ask some questions and that the answers should

be either "yes" or "no."

1. Is Your Name xxx? ("'no"should be correct)

2. Is Your Name xxx? ("'no"should be correct)

3. Is Your Name (real name)?

4. Do You Live in xxx? (no should be correct)

5. Do You'Live In (real residence)?

6. Do You Live In xxx? ("no"should be correct)

7. Are You A Man/Woman? ("yes"should be correct)

8. Are You A Doctor? ("no"should be correct)

9. Am I A Man/Woman? ("yes"should be correct)

10. Are The Lights On In This Room? ("yes"should be correct)

B. Auditory Word Recognition

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Real Objects | Drawn Objects | Numbers | Colors | Body Parts |
| Cup | Matches | 5 | Blue | Ear |
| Matches | Cup | 61 | Brown | Nose |
| Pencil | Comb | 500 | Red | Eye |
| Flower | Screwdriver | 1867 | Green | Chest |
| Comb | Pencil | 32 | Yellow | Neck |
| Screwdriver | Flower | 5000 | Black | Chin |

C. Sequential Commands

1. Raise your hand.

2. Shut your eyes.

3. Point to the window,then to the door.

4. Point to the pen and the book.

5. Put the pen on top of the book then give it to me.

6. Put the comb on the other side of the pen and turn over the book.

III. Repetition

1. Bed

2. Nose

3. Banana

4. Forty-five

5. The telephone is ringing

6. Pack my box with five dozen jugs of liquid veneer

IV. Naming

A. Object Naming

Gun, Ball, Knife, cup, Safety pin, Hammer, Toothbrush, Eraser, Padlock, Pencil

B. Word Fluency

Ask the patient to name as many animals as he or she can in 1 minute. The patient may be

helped if hesitant: "Think of a domestic animal, like the horse, or a wild animal, like the tiger."