**Table 1: The demographics and radiographic data of the 15 patients**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Age  (year) | Pre-OP ADI† | Post-OP ADI† | Pre-OP Dat† | Post-OP Dat† | Pre-OP Dmin† | Post-OP Dmin† | Pre-OP CMA(°) | Post-OP CMA (°) | Pre-OP Cobb(°) | Last Time Cobb(°) | Instability index (%) | Pre-OP  JOAs | Post-OP  JOAs | Follow-up time(year) |
| 1\* | 17 | 2 | 1.2 | 18 | 20.2 | 10.8 | 17.9 | 127 | 140 | 30.8 | 16.8 | 41.7 | 14 | 17 | 4 |
| 2 | 12 | 1.6 | 0.3 | 17.6 | 20.2 | 9.1 | 14.7 | 139 | 143 | 26.2 | 20.8 | 54.5 | 11 | 15 | 2 |
| 3 | 13 | 2.8 | 2.9 | 19.2 | 18.5 | 10.2 | 16.2 | 140 | 154 | 25.6 | 15.8 | 48.0 | 12 | 17 | 2 |
| 4 | 15 | 0.4 | 1.1 | 13.3 | 13.1 | 8.5 | 12.2 | 134 | 153 | 20.8 | 17.9 | 40.1 | 10 | 14 | 4 |
| 5\* | 18 | 1.1 | 1.3 | 14 | 14.1 | 9.2 | 15.7 | 139 | 153 | 27.4 | 31.4 | 44.2 | 12 | 16 | 2 |
| 6 | 13 | 2.6 | 2.5 | 16.8 | 15.6 | 10.8 | 16.7 | 135 | 152 | 29.4 | 12.8 | 40.3 | 11 | 14 | 2 |
| 7 | 15 | 1.7 | 1.6 | 18.7 | 19.5 | 9.6 | 13 | 133 | 152 | 32.5 | 16.8 | 48.7 | 9 | 14 | 4 |
| 8\* | 17 | 0.5 | 0.8 | 17.9 | 17.4 | 7.9 | 15.5 | 126 | 159 | 25.6 | 8.0 | 61.1 | 12 | 14 | 2 |
| 9 | 15 | 0.9 | 1.3 | 19.1 | 17.8 | 5.8 | 13.4 | 132 | 153 | 7.7 | 10.3 | 69.8 | 11 | 15 | 2 |
| 10 | 11 | 1.6 | 0.6 | 18.2 | 19.2 | 2.1 | 16.3 | 120 | 156 | 9.2 | 8.7 | 88.5 | 12 | 16 | 2 |
| 11 | 13 | 1.5 | 1.9 | 12.8 | 13.4 | 12.8 | 21.1 | 130 | 144 | 25.6 | 8.7 | 50.0 | 14 | 17 | 2 |
| 12\* | 17 | 1 | 1.5 | 14.5 | 14 | 5.9 | 14.7 | 125 | 142 | 56.9 | 11.9 | 59.3 | 10 | 13 | 3 |
| 13 | 12 | 1.3 | 1.8 | 19.3 | 18.5 | 12.3 | 16.2 | 143 | 160 | 35.1 | 18.6 | 39.1 | 9 | 12 | 2 |
| 14 | 18 | 1.1 | 1.1 | 16.6 | 17.6 | 9.6 | 14 | 145 | 160 | 15.5 | 18.8 | 45.5 | 11 | 14 | 3 |
| 15 | 13 | 0.7 | 0.8 | 16.1 | 15.5 | 10.2 | 14.2 | 150 | 161 | 10.7 | 32.6 | 39.6 | 6 | 10 | 4 |

**\*:** Diagnosis is Os odontoideum and irreducible atlantoaxial dislocation;

†**:** The unit of the parameter is millimeters (mm);

Pre-OP: Preoperative; Post-OP: Postoperative.