

Supplemented Table Detailed data of all 56 patients with IAAD caused by old odontoid fractures

Case	Gender	Age (Years)	Cause of injury	Type of odontoid fracture*	Instability	Neurological deficit	Operative time (min)	Blood loss (ml)	Follow-up (month)	Bony fusion (month)	Complications	Pre-ADI	Post-ADI†	Pre-SAC	Post-SAC†	Pre-JOA	Post-JOA#	Pre-VAS	Post-VAS#	Pre-NDI	Post-NDI#
1	M	23	FI	Type II	Y	Y	155	80	24	3	N	8.5	1.1	9.5	14.9	14	17	6	1	50	4
2	M	32	FI	Type III	Y	Y	200	90	30	6	N	10.1	2.8	10.1	18.0	12	16	4	0	56	8
3	F	36	MVA	Type III	Y	Y	210	55	35	6	N	7.8	0.5	11.0	17.9	13	17	5	0	40	6
4	F	28	MVA	Type II	Y	Y	180	80	24	6	N	8.1	1.0	8.8	15.4	13	17	4	0	30	6
5	F	43	MVA	Type III	Y	Y	210	90	30	6	Y (Screw misplacement)	7.5	2.0	9.5	16.0	15	17	3	0	18	0
6	M	45	SRI	Type II	Y	Y	185	110	24	6	N	9.0	1.4	10.2	17.0	12	16	3	0	36	2
7	F	37	FI	Type II	Y	Y	220	80	32	3	N	5.6	0.0	11.1	18.8	12	17	4	0	38	0
8	M	52	FI	Type II	Y	Y	205	100	24	6	N	6.8	0.0	7.9	15.8	10	16	5	0	64	18
9	M	55	MVA	Type III	Y	Y	210	205	25	9	N	7.6	1.3	9.3	15.5	14	17	3	0	36	6
10	M	58	FI	Type III	Y	Y	200	155	24	9	Y (Pulmonary infection)	11.2	2.2	8.1	14.9	11	16	4	0	42	0
11	F	36	FI	Type II	Y	Y	185	90	42	3	N	10.5	1.2	9.8	14.3	12	17	6	1	44	8
12	M	26	SRI	Type III	Y	Y	180	60	24	6	N	9.9	0.8	10.5	16.9	15	17	4	0	24	0
13	F	33	MVA	Type III	Y	Y	210	80	33	3	N	8.2	1.0	12.0	19.0	14	17	3	0	26	0
14	F	45	MVA	Type II	Y	Y	185	100	48	9	Y (Pharyngeal foreign body sensation)	9.3	2.5	11.4	17.0	12	16	3	0	34	2
15	M	48	FI	Type III	Y	Y	160	80	55	9	N	10.2	1.7	8.9	13.0	14	17	4	0	24	0
16	M	32	FI	Type III	Y	Y	180	120	30	6	N	11.5	0.8	8.1	14.2	12	17	5	0	48	4
17	M	46	FI	Type III	Y	Y	200	115	33	9	N	10.6	2.6	10.5	15.9	15	17	4	0	20	0
18	M	31	MVA	Type II	Y	Y	165	55	51	3	Y (Pharyngeal foreign body sensation)	8.4	0.0	8.9	15.0	11	16	4	0	56	6

19	F	30	MVA	Type II	Y	Y	210	60	48	3	N	10.0	1.2	7.7	13.3	10	15	4	0	70	20
20	F	40	SRI	Type II	Y	Y	175	55	42	6	N	9.8	2.3	6.0	12.6	8	15	3	0	78	10
21	F	42	MVA	Type II	Y	Y	155	80	24	9	N	6.5	0.0	7.8	14.8	11	16	4	0	64	18
22	M	50	MVA	Type III	Y	Y	190	90	50	9	N	7.7	1.1	7.1	13.6	9	14	3	0	72	12
23	F	43	FI	Type III	Y	Y	185	110	30	6	N	8.3	2.8	8.4	14.4	12	17	4	0	56	10
24	F	62	FI	Type III	Y	Y	205	105	36	9	Y (Pulmonary infection)	11.0	1.5	11.8	17.0	15	17	5	1	26	0
25	M	43	SRI	Type II	Y	Y	200	95	42	6	N	6.6	0.0	7.6	13.0	11	16	4	1	48	10
26	F	44	FI	Type III	Y	Y	165	85	28	9		6.9	0.0	8.0	13.8	12	17	3	0	44	6
27	F	38	MVA	Type III	Y	Y	215	105	36	6	Y (Screw misplacement)	7.5	0.6	7.6	14.0	8	14	4	0	74	18
28	M	36	SRI	Type II	Y	Y	185	110	38	3	N	9.8	1.4	8.6	14.2	12	17	4	0	48	10
29	F	46	FI	Type II	Y	Y	165	85	24	9	N	10.7	1.9	7.1	13.8	11	15	5	1	54	10
30	F	42	FI	Type III	Y	Y	205	155	26	6	N	11.1	2.2	10.0	15.0	15	17	6	0	22	0
31	M	29	MVA	Type II	Y	Y	155	110	33	6	N	11.7	1.8	11.4	17.9	13	17	4	0	38	2
32	F	37	FI	Type III	Y	Y	255	60	32	3	N	8.5	0.5	10.8	16.3	12	17	3	0	42	10
33	F	44	SRI	Type III	Y	Y	180	100	40	6	N	8.6	1.5	9.9	16.5	12	16	5	0	44	6
34	M	48	FI	Type II	Y	Y	150	80	24	6	Y (Screw misplacement)	10.3	2.8	7.8	16.8	11	16	4	0	58	12
35	F	41	MVA	Type II	Y	Y	200	55	31	6	N	11.2	3.6	8.3	15.9	10	15	4	0	62	18
36	F	35	MVA	Type III	Y	Y	240	70	45	3	N	8.5	1.6	7.5	15.7	10	15	5	1	66	14
37	F	33	FI	Type III	Y	Y	250	85	50	3	Y (Pharyngeal foreign body sensation)	9.9	2.2	6.4	13.2	9	14	3	0	70	14
38	M	28	FI	Type II	Y	Y	300	60	60	6	N	7.6	1.9	10.1	16.3	12	17	3	0	58	8
39	F	42	MVA	Type III	Y	Y	305	80	24	9	N	4.8	0.8	9.2	17.3	12	17	2	0	52	12
40	M	54	SRI	Type III	Y	Y	260	100	28	9	N	6.4	1.2	11.3	17.5	12	17	3	0	48	8
41	M	43	FI	Type II	Y	Y	205	90	30	6	N	7.9	2.1	10.5	16.9	11	16	4	1	50	8

42	M	55	FI	Type II	Y	Y	185	85	24	6	Y (Pharyngeal foreign body sensation)	9.6	3.1	9.4	14.3	11	15	4	0	46	4
43	F	58	MVA	Type II	Y	Y	190	65	27	6	N	10.1	2.9	7.5	15.2	10	15	5	1	60	14
44	F	53	SRI	Type III	Y	Y	310	60	24	9	N	9.3	1.4	8.8	15.5	11	15	2	0	50	10
45	F	32	FI	Type III	Y	Y	230	55	32	3	N	8.5	2.1	9.8	17.8	13	17	3	0	44	6
46	M	30	FI	Type III	Y	Y	255	90	28	3	N	5.4	0.5	11.2	15.6	14	17	2	0	20	0
47	M	39	MVA	Type III	Y	Y	210	100	42	3	N	4.9	0.9	10.5	14.9	14	17	4	0	16	0
48	F	27	FI	Type II	Y	Y	215	150	39	3	N	5.5	1.1	10.1	16.6	13	17	3	0	20	0
49	M	58	FI	Type III	Y	Y	180	110	24	9	N	10.4	3.1	6.9	14.2	9	14	4	0	30	2
50	F	32	SRI	Type III	Y	Y	245	100	50	3	N	8.3	2.3	10.4	17.2	12	17	3	0	22	0
51	M	44	FI	Type II	Y	Y	225	60	33	3	N	9.0	2.9	10.2	13.9	11	15	3	0	40	6
52	F	63	FI	Type III	Y	Y	250	65	24	9	N	10.2	3.3	6.9	13.2	9	14	2	0	52	4
53	F	60	MVA	Type III	Y	Y	200	70	24	6	Y (Pharyngeal foreign body sensation)	11.4	2.8	7.5	12.9	8	14	3	0	60	8
54	M	53	FI	Type II	Y	Y	150	70	36	6	N	9.6	1.6	8.9	13.8	11	15	3	0	42	0
55	M	32	FI	Type III	Y	Y	245	85	45	3	N	7.7	2.7	9.9	16.8	12	17	3	0	38	6
56	F	48	MVA	Type III	Y	Y	210	100	35	6	N	8.6	1.3	8.2	15.6	11	15	5	1	40	0

M, Male, F, Female; FI, Fall injury; SRI, Sports related injury; MVA, Motor vehicle accident; Y, Yes; N, No; ADI, atlantodental interval; SAC, space available for the spinal cord; JOA, Japanese Orthopaedic Association; VAS, visual analog scale; NDI, Neck Disability Index

*Type of odontoid fracture according to the classification system of Anderson and D'Alonzo

†Data at one week after surgery

#Data from the final follow-up