

C.D. INSTRUMENTATION IN UNSTABLE THORACOLUMBAR VERTEBRAL FRACTURES

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SUMMARY

We applied CD instrumentation in our clinic between 1989-1992. There were 20 male, 10 female patient. The youngest age was 17 the oldest was 54 (mean 32). The operation is applied as soon as possible. The average follow-up period is 15 months. We applied the instrumentation in 29 of cases as 4 pedicular screws, 2 rods and 2 DDT system. We never used hook. Results of them have good. We didn't use DDT system in our first case. We couldn't observe the perfect result with it.

In the end of this study we believe that CD instrumentation is a good choice if the decision of stability made perfect.

As the results of industrialism, fast-life and increase in population, we see the fractures of spine more often these days. So that, new efforts are made and our knowledge becomes much more, and the best choice in treatment is tried to be improved. Definition in vertebral fractures is highly important. Except penetrant injuries, we accept the fractures with neurological deficit, the body of vertebrae which has a collapse of more than 50%, the kyphosis angle of over 20° which is determined and according to Dennis's classification as the burst fractures in which at least two columns are affected, are called unstable fractures.

Nowadey, we know that the unstable fractures must treat with surgery. Morbidity and mortality is lessened importantly as the result of an urgent decompression and rigid internal fixation that provide early mobilization and rehabilitation.

The fixation implements which are used vary in accordance with the surgeon's choice. We used CD instrumentation in our clinic.

MATERIALS and METHODS

Between 1989-1992, the total of patients is 30; 20 man, 10 women. The youngest age is 17, the oldest is 54 and average age is 32.

Distribution of levels of fractures in Table I. Distribution of the type of fractures in Table 2.

21 of the cases had neurological deficit and we accept them all as unstable fractures.

Operation is realized as ideal reposition remaining loyal to the principles of rigid internal fixation and fusion through proc. spinosus, laminae and facet inter joints. We avoided from laminectomy as much as possible. We applied partial laminectomy on a case with free fragment and five cases which includes defected dura.

The pedicular screws are located on a healthy pedicle one above and one below in the lesion area; and a fusion is applied between the main gap.

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We used aspirative drain in all cases. We used reclination corset in post-operative drain in all cases. We used reclination corset in post-operative period and after 3 days they started to walk. Patients used corset for four months. The operation is applied as soon as possible (Mean 3 days). The average follow up period is 15 months (min. 3 months, max. 27 months).

RESULTS

We applied the CD instrumentation in 29 of cases as 4 pedicular screws, 2 rods and 2 DTT systems. We never used a hook. For another 1 cases, DTT system wasn't used. It was our first case. The patient didn't use the reclination corset that we recommend. In post-operative 8th month control, we saw a broken pedicular screw and determined 10° anterior compression angle (Pre-Op. 27°, early post of 0°).

All of the another 29 cases we measured pre-op 0°-40°, average 20°, anterior compression angle, post-op 0°-5°, average 2° anterior compression angle. We determined the same angles when patients came-back to the last control.

We observed the kyphosis angle pre-op. 0°-70°, average 25°, post-op. 0° and no difference had been observed in the last controll.

The amount of sliding on sagittal plain in pre-op measurements were 2 mm.-90 mm. average 13 mm and in post-op periods we observed that perfect reduction and haven't been difference in last controls.

Our cases were evaluated neurologically according to Frankel and Bradford classification systems. You can see them in the table 3.

According to Bradford classification we have got 6 patients in group D1. In the last follow-up period we observed that 2 of them have stayed in group D1 and 4 of them have regressioned to group D3.

Our complication was for 1 case. He was a total paraplegic and fractures dislocation type. One of the distal screws was applicated towards to the risc space.

Results have been accordance with the literature. In the end of this study we believe that CD. Instrumentation is a good choice in unstable vertebral fractures. It provides a perfect internal fixation and reduction in 3 dimensions easily.

For evaluating the stability, the following points are very important.

1. Neurological deficit
2. Denis's 3 column theory
3. Kyphosis angle
4. Anterior compression angle
5. The amounth of vertebral collapse
6. CAT evaluation
7. Knowledge about Iygaments

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