Volume-4, Issue-6, June-2015 • ISSN No 2277 - 8160

Research Paper MEDICAL SCIENCE

Dorsolumbar Vertebral Fractures Treated With Short Segment Pedicle Screw Fixation Withou Fusion

DR. PRASHANT TRIPATHI	SENIOR RESDIDENT DOCTOR DEPARTMENT OF ORTHOPAEDICS, Government Medical College, Bhavnagar
DR.PINAKIN I VORA	ASSOCIATE PROFESSOR DEPARTMENT OF ORTHOPAEDICS, Government Medical College, Bhavnagar
DR.NIHAR PATEL	ASSISTANT PROFESSOR DEPARTMENT OF ORTHOPAEDICS, B.J. Medical College, Ahmedabad

ABSTRACT *The spinal traumas are common and leading problem in orthopedic practice.Most common spinal trauma in thoracolumbar junction is between T12 to L2 . The goal of treatment of every spinal injury is restoration of the patients to maximum possible function with disability free life.*

KEYWORDS : DORSOLUMBAR JUNCTION,PEDICLE SCREW,VERTEBRAE,REHABILITATION

INTRODUCTION:-

The spinal traumas are common and leading problem in orthopedic practice. The individuals are at risk of high energy trauma in the modern era[3]. Thoracolumbar fractures are serious injuries of concern, if left untreated may result in marked morbidity and disability to the patient. The fractures to spine are reported to be around 6% approximately of the trauma patients, of which around 2.6% of the patients sustains spinal cord or nerve root level neurological injury. Such fractures are commonly associated with motor and sensory disturbance, bladder and bowel disturbance, erectile dysfunction, deformities like kyphosis, scoliosis as result of neurological injury. The patients are also prone for bed sores and pulmonary infections.Thoracolumbar segment is second most commonly involved segment in the spinal cord following spinal injuries followed by cervical segment. It constitutes 30 to 60% of all spinal injuries. The trauma of thoracolumbar segment is high in thoracolumbar junction to the extent up to 60% between T12 to L2[5]. Only of the fractures at thoracolumbar level are associated with neurological injury6. Thoracolumbar injuries classically exhibit a bimodal distribution, with peaks among males under 30 years of age and in the geriatric population[7].

DIAGRAM(1):-MECHANISM OF COMPRESSION AND DISTRACTION INJURY

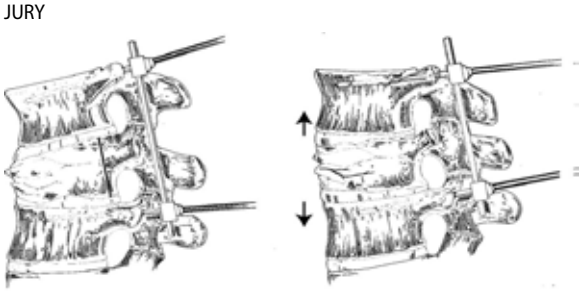
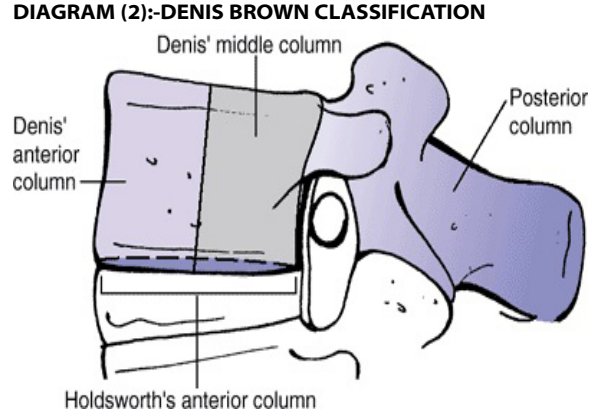


Table 1. AISA grading for neurological status in the status in the study group

AISA grade	Pre Operative n (%)	12th post operative week n (%)	24th post operative week n (%)	1 year n (%)
A	8 (40.0)	7 (35.0)	6 (30.0)	5 (25.0)
B	1 (5.0)	2 (10.0)	1 (5.0)	1 (5.0)
C	3 (15.0)	0	2 (10.0)	1 (5.0)
D	6 (30.0)	2 (10.0)	1 (5.0)	2 (10.0)
E	2 (10.0)	9 (45.0)	10 (50.0)	11 (55.0)

Pre – operative -12th Post op week z2 value = 9.85 df=4 value = 0.043, Sig
Pre – operative -24th Post op week z2 value = 9.39 df=4 value = 0.052, NS
Pre – operative -1 year : z2 value = 9.923 df=4 value = 0.042 Sig

DIAGRAM (2):-DENIS BROWN CLASSIFICATION



CASE REPORT:-OURS WAS A PROSPECTIVE STUDY OF 20 CASES.OUT OF THEM 15 WERE CASES OF RTA.

PARAMEDICS FOUND THEM LYING IN SUPINE POSITION,UNABLE TO MOVE ANY EXTREMITIES AND COMPLAINING OF BACK PAIN.MOST OF THEM WERE CONSCIOUS AND ORIENTED TO TIME,PLACE AND PERSON..THEY COMPLAINED OF NOT ABLE TO FEEL THERE EXTREMITIES.

X –RAYS REVEALED FRACTURE AT SOME PART OF VERTEBRAE,DECREASED LUNG EXPANSION.BLOOD TEST WERE NORMAL.

CONCLUSION:- The findings of this study show that pedicle screw – rod instrumentation is an excellent implant system used in treatment of vertebral fracture. There is a very high statistical significant restoration of vertebral body height, mean regional angle and mean anterior wedge angle with this procedure in thoracolumbar fractures. Neurological recovery was seen significantly when all case with neurological deficits were clubbed together.

REFERENCES

Jens R. Chapman Sohail K Mirza H. Rockwood, Green Fractures in Adults. Lippinncott Williams and Wilkins, 5th edition; vol. 2: 1295 -1466. | | 2) Alpantaki K, Bano A, Pasku D, Mavrogenis AF, Papagelopoulos PJ, et a. (2010) Thoracolumbar burst fractures: a systematic review of management. Orthopedics 33: 422-429. | | 3) Oner FC, Wood K, Smith JS, shaffrey CI (2010) Therapeutic decision making in thoracolumbar spine trauma. Spine (Phila Pa 1976) 35: S235 -244. | | 4) Burney RE, Maio RF, Maynard F. Incidence, characteristics, and outcome of spinal cord injury at trauma centers in Noth America. Arch Surg 1993; 128(5): 596-9 | | 5) Riggins RS. Kraus JF. The risk of neurological damage with fractures of the vertebrae. Journal of Trauma 1977; 126-133. | | 6) Benson DR. Keenen TL. Evaluation and Treatment of Trauma to the Vertebral Columb. Journal of Bone and Joint Surgery 1990; 39:577-588.