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Abstract Book

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METHOD OF PUNCTURE VERTEBROPLASTY IN THE TREATMENT OF AGGRESSIVE HEMANGIOMAS OF DIFFICULT LOCALIZATION IN THE UPPER THORACIC SPINE

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INTRODUCTION - OBJECTIVE: The purpose of the study is the estimation of possibility of carrying out transcatheter vertebroplasty in aggressive forms of Th1-Th4 hemangiomas. Percutaneous vertebroplasty was performed to 7 patients with aggressive forms of hemangiomas. Patients with single-level vertebral bodies undergone the surgery. Serious complications after vertebroplasty were not observed.

METHOD: Vertebroplasty was carried out to 4 patients aged 42 to 67 years. There were 2 men (28.5%) and 5 women (71.5%). All of the patients had a diagnosis of aggressive hemangioma. 5 patients (71.4%) had back pain in the clinical presentation. Acute pain syndrome was the indication to perform vertebroplasty. In all these cases only spine surgery performed. Surgeries were performed in the angiosurgical room by using Siemens Somatom Matiz B22 equipment.

RESULTS: Vertebroplasty is preferred to be done under local anesthesia, with the monitoring of vital functions and presence of the anesthesiologist to provide additional analgesia and to avoid unfavorable reactions of the organism. Optimal patient examination algorithm with vertebral body hemangioma must include neurosurgical examination, X-ray, CT, MRI.

CONCLUSIONS: Such signs of aggressive hemangioma as damage (thinning or destruction) of the cortical layer, lesion of 50% of the vertebral body volume, are enough to think about the activity of tumor process. Main indications for the puncture vertebroplasty of patients with body hemangioma are local pain or one or and more absolute CT and MRI aggressive signs. Puncture vertebroplasty is the most effective method of treatment of pain syndrome in aggressive hemangiomas.

EP-278[Spine and Peripheral Nerve Surgery] EXPERIENCE OF APPLICATION OF INTRAOPERATIVE NEUROMONITORING WHEN CONDUCTING SURGICAL OPERATIONS ON THE SPINAL COLUMN

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INTRODUCTION - OBJECTIVE: To present the experience of the surgical interventions on the spinal column and the peculiarity of conduction anesthesia with the use of intraoperative neuromonitoring.

METHOD: In the period from 2012 to 2014 in the Department of general neurosurgery held surgical treatment using neuromonitoring for 8 patients. According to nosologies patients was as follows: six patients were operated on various degenerative-dystrophic changes of osteochondrosisvertebralis, one patient with benign tumor of spinal cord, and one patient with vertebral compression of the spinal cord due to the spinal injury. Anesthetic management of operative interventions were performed with the use of infusion of propofol and fentanyl. All patients neuromonitoring was carried out using a system NIM Eclipse of company Medtronic with application software "Surgeon directed".

RESULTS: By holding IONM was controlled function of the spinal nerve root, registering electromyographic muscle activity and the function of the spinal cord with a record of motor evoked potentials. Five of the six patients were observed regression radicular pain syndrome when hernia excision, patients with a tumor of the lumbar spine and in a patient with closed spinal injuries to spinal cord compression noted improvement in motor function in lower limbs, increase strength in the legs. In one case, the clinical effect of the surgical intervention remained the same.

CONCLUSIONS: The use of neuromonitoring can improve the results of surgical interventions and to reduce neurological deficit, reducing the frequency of postoperative complications and recovery time.

EP-279[Spine and Peripheral Nerve Surgery] THE INDICATIONS FOR ANTEROLATERAL SPINAL FUSION IN COMPLICATED FRACTURES OF THE THORACOLUMBAR VERTEBRAE

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INTRODUCTION - OBJECTIVE: Damage to the cervical and lumbar spine constitute 75.4% of all spinal fractures and fractures of the thoracolumbar vertebrae complicated 22% of all fractures that level. **OBJECTIVE:** To determine the indications for anterolateral spinal fusion in complicated fractures of the thoracolumbar vertebrae with current classifications.

METHOD: In 2006-2014 years. 164 hospitalized patients with fractures of the thoracolumbar vertebral level at the age of 18-68 years. All patients underwent puncture with CSF analysis, survey spondylography, myelography, CT. Stable fractures were found in 80 degree compression 1-80; 2 degrees: -34; Grade 3: -25, explosive-fractures in 25. There were 42 complications in the spinal cord and roots. Anterolateral spinal fusion produced 38 cases, laminectomy-1. Currently, the choice of surgical tactics used classification Denis, and P.Meyer. American Association of spinal injuries suggested unified assessment (scale ASIA).

RESULTS: In complicated vertebral fractures in 95% of cases, there is a front and spinal cord compression of the anterior spinal artery, which creates the need for early anterolateral decompression and interbody spondylolysis stabilization of metal structures. Indications for surgery was: 1) Narrow spinal canal Th11-Th12 over 30-35% 2) Syndrome front artery, venous outflow obstruction 3) Increase in neurological symptoms from the spinal cord 4) Blockage of cerebrospinal fluid pathways 5) Failure of one or two middle pillars 6) Displacement of the vertebral bodies relative to each other by 25% 7) Pathological kyphosis angle of 20 degrees 8) Decrease in body height by more than 1/3.

CONCLUSIONS: In the presence of 1-4 readings required anterior decompression of the spinal cord; at 5-8 readings needed to stabilize the vertebral-motor segment.

EP-280[Spine and Peripheral Nerve Surgery] RETROSPECTIVE EVALUATION IN SPINAL CORD INJURIES: A SAMPLE AT UNIVERSITY HOSPITAL IN TURKEY

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INTRODUCTION - OBJECTIVE: This study was carried out to evaluate the patients with Spinal Cord Injuries (SCIs) who followed in last ten years in Pamukkale University Hospital.

METHOD: 495 (239 female; 256 male) patients with Spinal Cord Injuries (SCIs) were evaluated retrospectively.

RESULTS: Their mean age was 48.28±18.94 years. They had Spinal Cord Injuries caused by trauma 320(64.4%), spinal tumors 121(24.4%) and congenital anomalies 54(10.9%). Injury levels were recorded as follows: 158(31.9%) in the lumbar level, 145 (29.3%) in the thoracic, 115(23.2%) in the cervical, 36(7.3%) both thoracic and lumbar spine, 10(2%) both cervical and thoracic and 31(6.3) in the other levels. While 51.7% were males and 239 (48.3%) were females

CONCLUSIONS: This results show that the main reason led to Spinal Cord Injuries was trauma. That's why, education is vital in order prevent to trauma.

Figure 1

Figure 1. Distribution of Gender

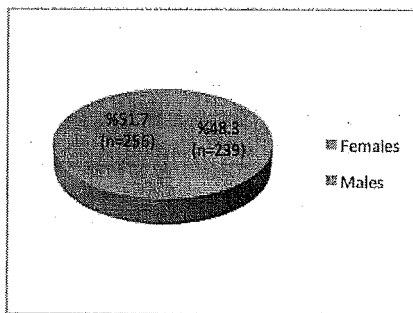


Figure 2

Figure 2. Distribution of Causes of Injury

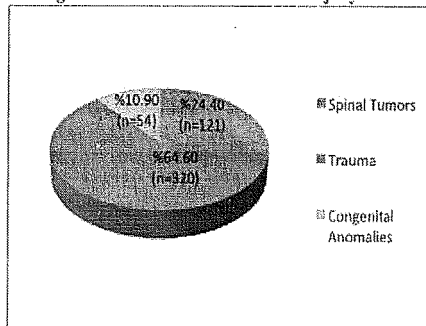


Figure 3

Figure 3. Distribution of Level of Injury

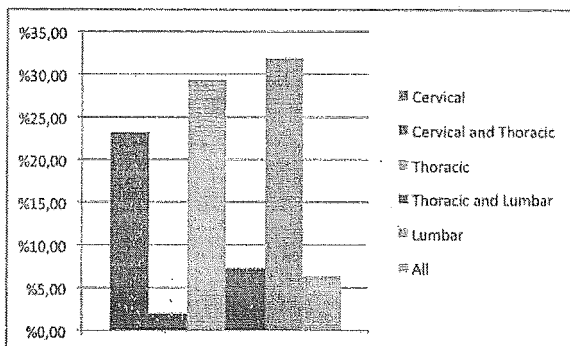




Table 1

Table 1. Demographic Characteristics of Patients with SCIs (N=495)

	N	%
Gender		
Male	256	51.7
Female	239	48.3
Age (Years)		
0-10	11	2.2
11-20	30	6.1
21-30	54	10.9
31-40	81	16.4
41-50	91	18.4
51-60	89	18.0
61-70	72	14.5
71-80	55	11.1
81-90	12	2.4

Table 2

Table 2. Distribution of Injury Causes and Levels

Injury Causes	N	(%)
Trauma	320	(64.4)
Spinal Tumors	121	(24.4)
Congenital Anomalies	54	(10.9)
Injury Levels	n	(%)
Lumbar	158	(31.9)
Thoracal	145	(29.3)
Cervical	115	(23.2)
Thoracal + Lumbar	36	(7.3)
Cervical + Thoracal	10	(2)
Others	31	(6.3)

Table 3

Table 3. Distribution of Gender According to Years

Years	Genders		
	Male (%)	Female n (%)	Total n (%)
2005	16 (37.2)	27 (62.8)	43 (100)
2006	42 (53.2)	37 (46.8)	79 (100)
2007	45 (59.2)	31 (40.8)	76 (100)
2008	37 (50.7)	36 (49.3)	76 (100)
2009	26 (55.3)	21 (44.7)	47 (100)
2010	27 (57.4)	20 (42.6)	47 (100)
2011	19 (47.5)	21 (52.5)	40 (100)
2012	25 (46.3)	29 (53.7)	54 (100)
2013	16 (53.3)	14 (46.7)	30 (100)
2014	3 (50.0)	3 (50.0)	6 (100)

Table 4

Years	Injury Causes	n (%)	Injury Levels	n (%)
2005	Trauma	21 (48.8)	Lumbar	17 (39.5)
	Spinal Tumors	18 (41.9)	Thoracal	10 (23.3)
	Congenital	4 (9.3)	Cervical	8 (18.8)
	Anomalies		Thoracal + Lumbar	4 (9.3)
			Others	4 (9.3)
	Total	43 (100)	Total	43 (100)
2006	Trauma	46 (58.2)	Lumbar	24 (30.4)
	Spinal Tumors	21 (26.6)	Cervical	23 (29.1)
	Congenital	12 (15.2)	Thoracal	16 (20.3)
	Anomalies		Cervical + Thoracal	1 (1.3)
			Thoracal + Lumbar	7 (8.9)
	Total	79 (100)	Total	79 (100)
2007	Trauma	53 (69.7)	Thoracal	33 (43.4)
	Spinal Tumors	18 (23.7)	Lumbar	20 (26.3)
	Congenital	5 (6.6)	Cervical	14 (18.4)
	Anomalies		Cervical + Thoracal	1 (1.3)
			Thoracal + Lumbar	8 (10.5)
	Total	76 (100)	Total	76 (100)
2008	Trauma	51 (69.0)	Lumbar	23 (31.5)
	Spinal Tumors	13 (17.8)	Thoracal	22 (30.1)
	Congenital	9 (12.3)	Cervical	18 (24.7)
	Anomalies		Cervical + Thoracal	4 (5.5)
			Thoracal + Lumbar	4 (5.5)
	Total	73 (100)	Total	73 (100)
2009	Trauma	31 (66.0)	Lumbar	16 (34.0)
	Spinal Tumors	16 (34.0)	Cervical	12 (25.5)
			Thoracal	12 (25.5)
			Cervical + Thoracal	2 (4.3)
			Thoracal + Lumbar	3 (6.4)
	Total	47 (100)	Total	47 (100)
2010	Trauma	31 (66.0)	Thoracal	18 (38.2)
	Spinal Tumors	8 (17.0)	Lumbar	15 (31.9)
	Congenital	8 (17.0)	Cervical	5 (10.6)
		Cervical + Thoracal	1 (2.1)	

EP-281[Spine and Peripheral Nerve Surgery]

PERCUTANEOUS VERTEBROPLASTY: A FIRST LINE TREATMENT IN TRAUMATIC NON-OSTEOPOROTIC COMPRESSION SPINAL FRACTURES

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INTRODUCTION - OBJECTIVE: Vertebroplasty is commonly used for osteoporotic and neoplastic compression fractures, yet little evidence exists for its use in traumatic non-osteoporotic compression fractures. The purpose of this prospective cohort study is to document and evaluate the clinical and radiological results of percutaneous vertebroplasty as first line treatment in traumatic non-osteoporotic compression fractures.

METHOD: Twenty three patients with traumatic non-osteoporotic compression fractures and normal bone mineral densitometry scores had been treated with percutaneous vertebroplasty are included. Vertebroplasty consists in the injection of cement (PMMA) in the damaged vertebral body to prevent further collapse of non-osteoporotic spinal fractures. Pain was evaluated two hours, one week, one month, 6 months, and one year post procedure using 10-point Visual analogue Scale (VAS). Ronald-Morris disability Questionnaire (RDQ) scores were also collected. A statistical analysis including a 2-tailed t test comparing postoperative data with preoperative values were done.

RESULTS: Twenty three patients with average age 36 years and 69.5% of them females. Significant improvement in VAS scores both at rest and with motion and in RDQ scores ($P < 0.05$) was achieved. Low rate of insignificant complications was recorded (13%). Radiological data during the follow-up periods showed no collapse in all the injected vertebrae. Significant decrease in rate of medication consumption post procedure was also recorded ($P < 0.05$).

CONCLUSIONS: From this study, it is concluded that vertebroplasty can be used successfully as first line treatment in patients with non-osteoporotic compression spinal fractures. It is also, an effective method to decrease pain, increase mobility, and decrease narcotic administration.