PRIMARY AND METASTATIC LESIONS OF THE SPINE

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From September - 1986 to March - 1994, 57 of 71 patients with spinal tumoral lesions have been operated on our clinic and 14 of them were conservatively treated. From March-1989 to March-1994 302 patients with various tumoral lesions have been consulted in our clinic. 52 of 302 patients localized on the spine. In the patients which were operated on, 14 primary benign, 19 primary malign and 25 metastatic lesions were localised on the spine. In the patients which were not operated on, 6 primary benign, 1 primary malign and 7 metastatic lesion were localized on the spine. The surgical procedure was only incisional biopsy 21%, resection 5%, laminectomy 1.7%, anterior fusion 13.7%, instrumentation 58.6%. Mean follow-up was 15 months and 13 deaths have been observed in this period.

Key Words: *Tumors, spine, primary and metastatic.*

INTRODUCTION

Between March 1986 and March 1994, 1206 patients with various tumoral lesions have been treated in our clinic. 71 of 1206 lesions localised on columna vertebralis. (5.8 %) Various operations have been performed to 14 primary benign, 19 primary malignant and 25 metastatic lesions of the spine. Preventation and recovery of neurological deficits and stabilization of the spine were aimed especially metastatic cases. Excision of the tumoral lesion and stabilisation of the spine were aimed in primary lesions of the spinal column.

MATERIAL AND METHOD

30 (42 %) of the 71 patients were female and 41 (58 %) were male. They ranged age from 6-78 years. Mean age was 49.8.

26 (36.6 %) of the 71 patients had evidence cord compression. 63 (88.8 %) of 71 patients had pain and 3 (4 %) of 71 patients had tumoral mass.

20 benign (28.2 %), 20 primary malignant (28.2 %) and 31 metastatic (43.6 %) lesions localized to the spine. The lesions were localized to cervical region in 3 patients (4.2 %), to cervicothoracal region (C7 to T2) in 1 patient (1.4 %), at thoracal region in 24 patients (33. 8 %), at thoracolumbar region (T12 to L1) in 4 patients (5.6 %), at lumbar region in 28 patients (39.4 %), at lumbosacral region (L5 - S1) in 1 patients (1.4 %), at sacral region in 7 patients (9.8 %) and at various spinal segment in 3 patients (4.2 %).

20 cases having primary benign tumoral lesions were as following :

30 % hemangioma (6 cases), 20 % aneurismal bone cyste (4 cases), 15 % osteochondroma (5 cases), 15 % osteoid osteoma (3 cases), 5 % eosinofilic granuloma (1 cases), 5 % osteoblastoma, 5 % nonossifying fibroma, 5 % osteochondroma, 5 % enostosis and 5 % benign ganglioneuroma

Primary malign group was consisting of plasmocytoma and multipl myeloma 65 % (13 cases), chordoma 20 % (4 cases) lymphoma 5 % (1 case), leukemia 5 % and epandimoma 5 %.

35.4 % of metastases were arising from lungs (11 cases). 6.4 % from gastrointestinal system (2 cases), 3.2 from prostat (1 case), 3.2 % from kidney, 3.2 % from larynx, 3.2 % from genital system and 41.9 % from unknown localisation (14 cases).

We treated 58 (80.1 %) cases surgically. The surgical prosedure was only incisional biopsy 22.4 % (13 cases), resection 5.2 %, (3 cases), laminectomy 1.7 % (1 cases), anterior fusion 13.7 % (8 cases) and instrumentation 56.7 % (33 cases). The types of instrument that we have applied in 80.1 % (58 cases) of the patients are as follows: ISOLA system in 33.3 % (11 cases), HARRINGTON instrument in 24.2 % (8 cases), DICK internal fixator in 15.1 % (5 cases), TSRH system in 12.1 % (4 cases), ALICI system in 6 % (2 cases), DCP in 3 % (1 cases), CD instrumentation in 3 % and KANEDA instrumentation in 3 %.

Surgical treatment was combined with Chemotherapy (Ch. T) + radiotheraphy (RT) or one of them in 23 patients totally. In the postoperative period, because of local hemangioma recurrence, two patients were additionally treated by radiotheraphy. In the pri-

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mary malign group, ChT + RT were given to 5 patients in addition to surgical treatment. ChT was given to 2 patient and RT was given to 1 patient in addition to surgery. In 1 case having multiple myeloma was conservatively treated with ChT + RT. In the metastatic group, ChT + RT were given to 3 patients, ChT were given to 6 patients and RT were given to 3 patients, ChT were given to 6 patients and RT were given to 3 patients in addition to surgical treatment. 4 cases having metastatic tumoral lesion were conservatively treated. In this group, ChT were given to 2 patients and ChT + RT were given to 2 patients.

After performing decompression 6 of the 13 paraparesis cases recovered partially. In early postoperative period 3 patients had superficial wound infection which was treated succesfully local wound care and antibiotics. (5.2 %) In two patients one of them had plasmocytoma and the other had aneurysmal bone cyste, neurologic status deteriorated postoperatively. After performing physioteraphy their functional loss have been decreased slightly.

The mean follow up period of our cases is 15 months (3 - 95). 9 of the metastatic, 3 of the primary malignant and 1 primary benign patients died within the 3 - 22 (mean : 13) month.

52 patients which were consulted in our clinic, had tumoral lesion in their spine. 24 of 52 patients were female (46.2 %) and 28 male (53.8 %). The mean age was 50.3 years (30 - 83). The lesions were localized to cervicothoracal region in 1 patient (1.9 %), to thoracal region in 8 patients (15.6 %), to thoracolumbar region in 2 patients (3.92 %), to lumbar region in 18 patient (34.6 %), to sacral region in 3 patients (5.8 %), and to various spinal segments in 20 (38.5 %) patients. Of 52 tumoral lesions were multipl myeloma in 10 cases (19.6), metastatic cancer in 37 cases (73 %), Ewing's sacroma in 1 case (2 %), Paget's Disease in 1 case, chronic myelocyter leukemia in 1 case, leiomyosarcoma in 1 case and malign melanoma in 1 case. These metastatic lesions were arising from breast in 13 (35.1) patients, from prostat in 4 (7.8 %) patients, from lung in 3 (5.8 %), from stomach in 3 (5.8) patients, from colon in 2 (4 %) patients, from 2 patients larynx, from rectum in 2 patients, from extremities in 2 patients, from kidney in 1 patients, from trioid in one patients and from nasopharynx in one patients. Three of 37 lesions were arising from unknown primary tumoral lesions. In addition to externally supportive braces, chemotherapy + Radiotherapy or one of them were advised to these patients.

DISCUSSION

In our series, the lesions were localized to cervical region in 3 patients (4.2 %), to cervicothoracal region (C7 to T2) in 1 patient (1.4 %), at thoracal region in 24 patients (33. 8 %), at thoracolumbar region (T12 to L1) in 4 patients (5.6 %), at lumbar region in 28 patients (39.4 %), at lumbosacral region (L5 - S1) in 1 patients (1.4 %), at sacral region in 7 patients (9.8 %) and at various spinal segment in 3 patients (4.2 %).

Neurologic compromise is rare with benign tumors. (1, 3, 10, 11) The most common benign tumors of the spine are : Osteochondroma, osteoblastoma, osteoid osteoma aneurysmal bone cyste, Giant cell tumor, hemangioma and eosinophilic granuloma. (1)

20 benign tumors of 71 tumors include each of them. Enostosis, non ossifying fibroma and benign ganglioneuroma were other benign tumors in our patients. Plasmocytoma and multipl myeloma, Ewing's sacroma, lymphoma, chondrosarcoma and chordoma were mentioned as malignant tumors of the spine. (1) Our series include each of them and additionally leukemia and epandimoma.

The spine is the most frequent site of skeletal metastases. (2, 3, 4, 5, 12) Most patients with metastatic lesions present between 50 - 60 years age. (3) In our patients are similar. The metastases involves thoracic and lumbare region in 70 %. (1, 7) The rate of spinal metastates originate from carcinoma of the breast, prostate, kidney, thyroid or lypmhoma or myeloma. (3) In our patients 35.4 % of metastases were arising from lungs (11 cases), 6.4 % from gastrointestinal system (2 cases), 3.2 from prostat (1 case), 3.2 % from kidney, 3.2 % from larynx, 3.2 % from genital system and 41.9 % from unknown localisation (14 cases). In our series, the metastatic lesions involves the thoraca and lumbar 88.3 % and other 11.7 %. Posterior elements were involved 15 % of patients with metastases. In the patients which were consulted in our clinic, the metastatic lesions were arising from breast in 13 (35.1 %) patients, from prostat in 4 (7.8 %) patients, from lung in 3 (5.8 %), from stomach in 3 (5.8 %) patients, from colon in 2 (4 %) patients, from larynx in 2 patients, from rectum in 2 patients, from extremities in 2 patients, from kidney in 1 patients, from tiroid in one patients and from nasopharynx in one patients. Four of 37 lesions were arising from unknown primary tumoral lesions.

Surgical stabilisation of the spine is indicated when disease process have made it unstable or when it is left unstable following tumoral resection. (3, 7) The

only contrendication to stabilisation is the likelihood of immediate, impending death due to the primary disease process. (3) Posterior spinal fusion is not sufficient for treating spinal tumors. Either the tumor or its surficial excision will make the spinal column unable to support weight. It will have a tendency to angulate markedly unless appropriate implants are used in the reconstruction. If the anterior elements have only been partially comprimised, stability can be restored by massive posterior arthrodesis. If there is marked loss of vertebral body anterior reconstruction must be done. (3)

Neurologic compromise is rare with benign lesions but occurs in 5 % of patients with metastatic lesions. (1, 3, 10, 11) Aneurysmal bone cyste and hemangioma may cause neurologic deficits. (1, 6) There were similar cases in our series. Metastasis of vertebral body compromise the cord the cord by mechanical compression from tumor and/or by vertebral column angulation or collaps. (3, 8) Surgical decompression is not effective in epidural infiltration.

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