

SPINE TUMORS

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From September-1986 to June-1992, 29 of 31 patients with spinal tumoral lesions have been operated in our clinic. 19 Malignant (10 metastatic) and 12 benign tumors were localized on cervical (3), cervicothoracal (2), thoracal (11), thoracolumbar (1), lumbar (9), lumbosacral (2), sacral (2) and coccygeal (1), regions. 31 Operations have been performed to 29 patients and we applied anterior or posterior instruments in 134 patients. The mean follow up was 18 months and 5 deaths have been observed in this period.

Between March-1986 and June-1992, 805 patients with various tumoral lesions have been treated in our clinic. 31 of 805 lesions were localized on columna vertebralis (3.8 %). Various operations have been performed to 12 benign, 9 primary malignant and 10 metastatic lesions of the spine. Prevention or leviation of neurological deficits and stabilization of columna vertebralis were aimed especially in metastatic cases.

CLINICAL MATERIAL

Of the 31 patients 42 % (13) were female and 58 % (18) were male.

They ranged age from 12 to 71 years. The mean age was 44.4.

12 benign (39 %), 9 primary malignant (29 %) and 10 (32 %) metastatic lesions were localized at cervical region in 3 (10 %) patients, at cervicothoracal region in 2 (6 %) patients, at thoracal region in 11 (36 %) patients, at thoracolumbar region in 1 (3 %) patient, at lumbar region in 9 (30 %) patients, at lumbosacral region in 2 (6 %) patients, at sacral region in 2 (6 %) patients and at coccygeal region in 1 (3 %) patient.

12 Benign tumoral lesions of our cases include the following:

12 % ancurysmal bone cysts (4 cases), 6 % osteoid osteomas (2 cases), 6 % osteochondromas (2 cases), 6 % hemangiomas (2 cases), 3 % osteoblastoma (1 case), 3 % cosinophilic granuloma (1 case).

Primary malign group consist of 16 % plasmacytomas (5 cases), 10 % of chordomas (3 cases) and 3 % lymphoma (1 case).

30 % of metastases were arisen from lungs (3 cases), 20 % from gastrointestinal system (2 cases), 10 % from kidney (1 case) and 10 % from prostate (1 case). The primary tumoral lesion remained unknown in 30 % of patients.

Needle biopsy have been performed to seven cases but only five of them were adequate for histopathological diagnosis.

TREATMENT

We treated 94 % (29) of 31 cases surgically. Surgical treatment was combined with chemotherapy in 10 (33 %) patients, with radiotherapy in 7 (22.6 %) patients and with either in 6 (51.9 %) patients. Only surgical procedure was preferred in 6 (19 %), onl radiotherapy in 1 (3.2 %) and radiotherapy & chemotherapy together in 1 (3.2 %) of the patients.

The surgical procedure was only incisional biopsy in 7 %, resection in 18 %, curretage & bone grafting in 7 %, fusion in 25 % and instrumentation in 43 % of the cases.

The types of instruments that we have applied in 43 % of the patients are as follows: ALICI system in 16 %, ISOLA system in 24 %, DICK internal fixator 30 % and HARRINGTON instruments in 30 %.

Five of the 31 patients had evidence of cord compression, an incidence of 16 %.

In early postoperative period 1 patients had superficial wound infection which was treated successfully by local wound care and antibiotics (3.2 %).

After performing decompressions one of the paraparesic cases recovered partially. Others remained same.

RESULTS

The mean follow up period of our cases is 18 (between 3-60 m) months.

One monoparesic case with metastatic disease have been deteriorated after surgical operation and transformed to paraparesis. After performing physiotherapy his functional loss has been decreased slightly but could not reached the preoperative performance. The neuroiologic loss of one paraparesic case with plasma-

cytoma has been recovered markedly after performing anterior decompression. He also rehabilitated by physiotherapists and became to excellent.

Five of the metastatic patients died within 6-18 (mean: 11 m) months after surgical operations. All of these deaths were due to multiple metastases of lung, gastrointestinal system, kidney and prostate tumors.

DISCUSSION

The most common primary benign tumors of the spine are: Osteochondroma, Osteoblastoma, Osteoid osteoma, aneurysmal bone cyst, Giant cell tumor, Hemangioma and eosinophilic granuloma (1)...

12 benign tumors of 31 tumors (39 %) include each of them except Giant cell tumor. Plasmacytoma, Ewing's sarcoma, Lymphoma, Chondrosarcoma, Chordoma were mentioned as malignant tumors of the spine (1). 9 (29 %) of 31 cases were primary malignant tumors and include: Plasmacytoma (5), Chordoma (3) and Lymphoma (1).

The spine is the most frequent site of skeletal metastases (2,3). The rate of spinal metastases varies from 2.2 % to 31 % (7). Spinal involvement was observed in 50 % of all our patients with metastatic disease. 75 % of the vertebral metastases originate from carcinoma of the breast, prostate, kidney thyroid or lymphoma or myeloma (2). 16.5 % of the metastases arise from the breast, 15.6 % from the lung, 92 % from the prostate and 6.5 % from the kidney in cases with epidural involvement (51). In our series the origins of metastases were as follows: lung 30 %, gastrointestinal system 20 %, prostate 10 % and kidney 10 %. The primary lesions remained unknown in three cases (30 %). Most patients with metastatic lesions present between 50 and 60 years of age (2). The mean age of 10 patients with metastatic disease was 50.6. The metastases involves thoracic and thoracolumbar regions together in 70 %, lumbar and sacral regions together in 22 % of the cases (1,5). Thoracic region was involved in 6, lumbar region in 3 and cervical region in 1 of ten patients with metastatic disease. The posterior elements are involved only one-seventh as often as the vertebral body (51). Posterior elements were involved in 20 % of patients with metastases.

Surgical stabilization of the spine is indicated when disease processes have made it unstable or when it is left unstable following tumor resection (2,5). The only contraindication to stabilization is the likelihood of immediate, impending death due to the primary disease process (52). 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 (2). If the anterior elements have only been partially compromised, stability can be restored by massive posterior arthrodesis. If there is marked loss of vertebral body anterior reconstruction must be done (2).

Neurologic compromise is rare with benign tumors but occurs in 5 % of patients with metastatic lesions (1, 2, 8, 9). Aneurysmal bone cyst and hemangioma may cause neurological deficits (1, 4). Metastasis of vertebral body compromise the cord by mechanical compression from the tumor and/or by vertebral column angulation or collapse (2, 6). Surgical decompression is not effective in epidural infiltration (2).

13 patients, who had plasmacytoma (4), metastatic disease (5), lymphoma (1), hemangioma (1) and aneurysmal bone cyst (2), have been instrumented anteriorly or posteriorly. Anterior spinal fusion have been performed to 6 cases which can be listed as: metastatic disease (2), Eosinophilic granuloma (1), osteoblastoma (1), Osteochondroma (1) and hemangioma (1). We treated two of aneurysmal bone cysts by curettage and impacting bone grafts. In five patients (Osteoid osteoma 2, Chordoma 2, Osteochondroma 1, metastatic disease (1), we only excised the tumoral lesions.

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