

Results

This study is a descriptive analysis of musculoskeletal disorders encountered in patients with various malignancies.

Seventy one patients with different malignant diseases were thoroughly examined at the National Cancer Institute- Cairo, over a period of six months, they were 40 females (56,3%) and 31 males (43,6%).

Thirty five of these patients were suffering from common degenerative diseases e.g. osteoarthritis and spondylosis fig.(1) which was confirmed by: clinical examination and x-ray studies.

The other 36 patients had miscellaneous musculoskeletal complaints associated with their malignancy comprising the manifestations directly or indirectly related to their malignant disease.

These patients were classified according to their clinical findings into two groups.

Group (I):-

Comprising 23 patients whose musculoskeletal complaints were directly related to their malignancy, either due to direct pressure of the primary tumour itself, or due to the effect of metastases.

They were 8 males (34.7%) and 15 females (65.2%) whose ages ranged between 16 and 66 years (mean 46 years), tabel (1).

N.B. the recorded sites of metastatic deposits were only those affecting the peripheral musucloskeletal functions.

Group (II):

It included 13 patients whose musculoskeletal complaints were indirectly related to their malignant disease.

They were 7 males (53.8%) and 6 females (46.2%), whose ages ranged between 17 to 64 years, (mean 44 years), table(2)

The spectrum of musculoskeletal disorders encountered in our groups of patients included:

(1) Brachial Radiculopathy:

Brachial radiculopathy, was observed in 3 patients (8.3%) ,two males and one female, whose ages ranged between 46-56 years, table (3).

Two patients had adenocarcinoma of the lung (Pan coast tumour), while the other patient had metastatic osteolytic deposits in the upper end of the humerus secondary to adenocarcinoma of the breast fig.(2).

These patients presented with gradual pain and weakness of their upper limb 6 to 18 months following their malignant disease. One patient had an associated horner's syndrome.

Diagnosis of these cases was feasible through clinical presentation x-ray studies and electromyographic studies.

(2) Low Back Pain:

Low back pain occurred in 8 patients (22%) .

They were 4 females (50%) and 4 males (50%), whose ages ranged between 18 - 58 years (mean 45.25), and The duration of malignancy ranged from 1-16 years (mean 5.9), While the duration of back pain varied between 1-2 years (mean 0.77), table (4).

These patients presented with pain, tenderness, spasm of the paravertebral muscles and limitation of movements, only 5 patients had referred pain to one or both lower limbs.

All these patients had variable types of malignancies:-

Four patients (50%) had cancer breast, 2 patients (25%) had multiple myeloma fig.(3), one patient (12.5%) had Ewing's sarcoma fig.(4), and another patient (12.5%) had testicular carcinoma. Access to diagnosis was through clinical examination, plain radiographs, computerized tomography and / or bone scan.

(3) Paraparesis, Paraplegia:

This was encountered in 4 patients (11%) they were 3 males (75%) and one female (25%) with ages ranging between 16-55years (mean 34.75) table (5).

Two patients had spasticity ,one patient had flaccidity while the last patient had quadriparesis with spasticity of the lower limbs and flacid weakness of both upper limbs.

The associated malignant diseases were a hemangiopericytoma of the cervical spine, metastases of unknown primary, and Ewing's sarcoma.

All these patients had these neuromuscular symptoms almost always with the diagnosis of their malignancy starting from a period ranging between 6 months and 2 years.

These cases were diagnosed by plain radiographs, computerized tomography and bone scan fig.(5).

(4) Metastatic Arthropathy:

Metastatic involvement of different joints was observed in 5

females (13.8%), with ages ranging between 36 and 55 years (mean, 48.4) table (6).

The involved joints were the knees, hips, and sacroiliac joints,

The involved joints were tender, swollen and stiff, but no effusion was detected fig (6).

Four patients had cancer breast. The duration of their malignancy varied between 3 and 7 years (mean 5.2), while the duration of their arthropathy ranged between 6 and 18 months.

The fifth patient had non-Hodgkin's lymphoma (NHL) involving the lower end of femur that essentially presented with knee arthropathy for 5 months.

Approach to diagnosis was allowed mainly by plain radiographs and / or computerized tomography. Laboratory investigations revealed an E.S.R. ranging between 40 and 100 ml / hour with a negative rheumatoid factor.

(5) Other Manifestations :

These included dorsal pain with tenderness and paravertebral muscle spasm due to metastatic involvement of dorsal vertebrae (T3-11) in two cases of cancer breast (43 and 66 years) with duration of malignancy ranging between 3 and 5 years and a period of metastatic involvement ranging between 1 and 4 years, table (7).

Another case of non-Hodgkin's lymphoma with inguinal lymphadenopathy of 1 year duration that developed oedema and stiffness of the right lower limb 3 months following malignancy.

(6) Hypertrophic Osteoarthropathy (H.O) :-

As shown in table (8), two male patients (5.5%) with

bronchogenic carcinoma whose ages were 50 and 54 years presented with this complication. Both had clubbing of fingers of both hands, with pain and tenderness over proximal and distal interphalangeal joints fig.(7).

One of these patients had an associated thickening of the lower end of both the radius and ulna of the right forearm due to periostitis fig.(8).

Osteoarthropathy occurred 6 and 12 months preceding pathologic diagnosis.

These cases were diagnosed clinically and by plain radiographs.

(7) Arthritis and Arthralgia:-

Six patients (16.6%) presented with peripheral arthritis or arthralgia.

They were 4 males (66.6%) and two females (33.3%) whose ages ranged between 17 and 64 years (mean 37.3).

Four patients had acute lymphocytic leukemia (ALL), one patient had acute myeloid leukemia (AML), while the last one had carcinoma of the breast.

The arthritis or arthralgia of these patients was almost always polyarticular except in one patient table (9).

The involved joints were the knees, shoulders, elbows and wrists.

The arthritic joints showed pain, tenderness, hotness, and stiffness.

Effusion was observed in two cases.

Symptoms occurred 6 to 18 months following malignancy, but in two cases it preceded malignancy by 3 to 4 months.

Serologic tests showed a raised E.S.R. (mean > 45 mm / hour), a negative rheumatoid factor, a normal serum uric acid range was evident in 4 cases while it was elevated in two patients (> 8 mg/dl).

Synovial fluid analysis revealed a mildly inflammatory effusion with increased number of cells (5,135 cell/ Cu.mm.) which were mainly neutrophils.

Using Wright's stain blasts were observed in one case.

Plain radiographs revealed a destructive process consisting with leukemic infiltration in only two cases.

No tenosynovitis or septic arthritis was found by synovial fluid analysis or routine culture.

Gouty arthritis was the presumptive diagnosis in two cases with hyperurecemia that occurred after chemotherapy and showed a remarkable response to colchicine therapy.

(8) Rheumatoid Arthritis (RA):

RA was observed in 3 female patients (8.3%) whose ages ranged between 32 and 45 years.

Two patients had carcinoma of the breast, while one patient had carcinoma of the colon table (10).

RA preceded malignancy in two patients by a duration from 2-10 years, while in one patient it followed malignancy and tumour resection by 2 years.

One of these patients had an Estrogen receptor positive tumour that necessitated treatment with an anti-oestrogen drug (Tamoxifen) which increased her pain and disability.

The presentation of these patients was typical of the ACR revised criteria (1987).

(9) Polymyositis And Dermatomyositis:

Polymyositis and dermatomyositis were reported in 2 cases (5.5%) table (11), polymyositis was observed in a female patient (53 years) with cancer breast. - it occurred 9 months following the diagnosis of her malignancy.

The other female patient (58 years) had dermatomyositis preceeding carcinoma of the colon by one year.

One patient had arthritis of both knees, wrists, and shoulders while the other patient had arthralgia of the knees, hips, and ankles.

Diagnosis was approached through clinical examination while the creatinine kinase (CK) level was elevated (120 - 200/ dl.)

Table (12) shows the musculoskeletal disorders associated with the different types of malignancy in our cases.