CASE REPORT
OSTEOSARCOMA OF HUMERUS

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ABSTRACT
A 40-year-old woman suffering with weakness in her left arm was brought to the Moewardi hospital by her family. She complained of nagging pain in her left arm and had difficulty raising her arm. There was a lump with local tenderness, warmth and edema around the left proximal humerus. She had mononessia. Lymphatic spread: axillary lymph nodes were negative. Laboratory investigation including RBC, Hb, WBC, Electrolyte, LFT, BUN, Creatine were normal. Alkaline phosphatase was high. As x-ray of the left humerus (1) showed that the upper and lower humerus was separated by a tumor, the second x-ray (2) showed increased damage by a survey type of tumor. Computed tomography showed pleural metastatic. Biopsy: cultures were negative, but after further examination (histopathological study) it was revealed that the tumor was classified as high grade osteosarcoma... (T,N,M, clinical). The patient's general health was not good and surgery was delayed. Chemotherapy (doxorubicin) and radiation therapy were used in combination. The patient died one month later.

Key words: monoparesis - pain - edema - X-rays - biopsy - osteosarcoma - radiation, chemotherapy

INTRODUCTION
Osteosarcoma is the most common type of cancer that develops in bones. Malignant tumors arising in mesenchymal tissue is usually called sarcoma. Osteosarcoma is defined as a malignant mesenchymal tumor, in which the cancerous cells produce bone matrix. Osteogenic sarcoma is the most common primary malignant tumor of bone and occurs in all age groups. Men are usually more often affected than women. (1.6:1). Mostly osteosarcoma could develop in areas of greatest bone growth.

CASE REPORT
A 40-year-old woman suffering with weakness in her left arm was brought to the Moewardi general hospital Sunakarta by her family on April 1, 2000. She complained of nagging pain in her left arm and had difficulty raising her arm. On physical examination: a lump was detected with local tenderness, a throbbing sensation, it was swollen and with reactive warmth around the left proximal humerus. The patient appeared to have less use of the left arm (monoparesis) but no sensory loss. Lymphatic spread: axillary lymph nodes were negative. Laboratory investigation including RBC count was low, Hb was 3.4 g/dL, and WBC 51,000/uL, Na+ 130 mEq/L, K+ 2.9 mEq/L, Ca 6.1 mEq/L, Cl 89 mEq/L, LFT, BUN and creatine were normal. Alkaline phosphatase was high (263 U/L). Optimize method, recommendation with Deutsche Gesellschaft für Klinische Chemie. The first x-ray of the left humerus showed bony abnormalities, the upper and lower humerus were separated by destruction and development mass (Fig.1). Three months later, the second x-rays of humerus showed increased damage, development of osteosclerosis with a spongy - type reaction of the periosteum and soft tissue mass, well - marked Codman's triangle (Fig.2). Conclusion: osteogenic sarcoma. Chest x-ray: showed right side pleural effusion/pleural metastatic. (Fig.3). Biopsy was carried out and cultures were proved to be negative, but after further examination (histopathological study) it was revealed that the tumor was classified as high-grade osteosarcoma (T,N,M, clinical). Chemotherapy (doxorubicin) was administered. Blood transfusions and electrolyte supplementation were needed for the patient. Surgery was delayed. There were several reasons for delaying surgery. The patient's general health was not good and suffered mental disorientation. Her family were emotionally distressed due to the seriousness of the diagnos-
sis, and had to be made aware of the potential problems. Pus drainage through the skin was performed. Ul - slab was used to avoid fracture, dislocation and wound dehiscence. An antibiotic was administered to prevent infection. Radiation therapy and chemotherapy (doxorubicin) were use in combination. Radiotherapy was given to a total dose of 32 gray in 1.8 gray fractions. Doxorubicin given at 14 - day intervals, but the patient died one month later.

DISCUSSION
Bone sarcomas are primary bone tumors and relatively rare. It is important to know some features of these rare tumors, because if a tumor is recognized at an early stage it can be cured. Life style-related risks are the most significant factors contributing to concern in adults. The exact cause of most osteosarcoma is not known (ACS)3. They tend to occur in the femur, tibia, pelvis, fibula, humerus, ribs, jaw, and in any bone1,2,5. The proximal humerus is the second most common location for osteosarcoma. These tumors are characterized locally by an expansive and infiltrate growth. They metastasize frequently hematogenous. The tendency to spread is intensive. Micrometastases may already be present at the moment of the initial diagnosis, predominantly in the lungs. Twenty percent of patients with osteosarcoma already have metastases that are detectable by chest X - ray, (ACS)3 and spreading to under bones, the brain and other internal organs may occur. Osteosarcoma occurs mainly in adolescents and in children27. A fracture after only a minimal trauma is the first symptom of osteosarcoma, but the patient had no fracture. These tumors are predominantly present and are painful, and normally progress to in enlarged masses. Several subtypes of osteosarcoma are grouped according to: anatomic portion of the bone from which they arise; degree of differentiation; multicentricity; primary or secondary; histology variant5. The WHO histology classification of bone tumors separates the osteosarcomas into central (medullary): conventional central osteosarcoma; telangiectatic osteosarcoma; intracapsular well-differentiated (low grade) osteosarcoma; small cell osteosarcoma. Surface (peripheral): parosteal (juxtacortical) well differentiated (low-grade) osteosarcoma; periosteal osteosarcoma - low - to intermediate grade osteosarcoma; high-grade surface osteosarcoma6. Based on their appearance under the microscope, they can be classified as low-grade, intermediate or high-grade (ACS)5. The most common subtype is osteosarcoma that arises in the metaphyseal of long bones and is primary, solitary, intramedullary, and poorly differentiated and produces a predominantly bony matrix. The tumors frequently destroy
overlying cortex and produce a soft tissue mass. They spread widely in the medullary canal, infiltrating and replacing the narrow surrounding the preexisting bone trabeculae. The formation of bone by the tumor cells is most characteristic of osteosarcoma. High-grade osteosarcoma has many dividing cells and immature matrix (osteoid). 

Diagnostic studies: X-ray examination, local decrease or local increase of density caused by destruction/production of bone by the tumor. Radiographs of the primary tumor usually show a large destructive, mixed lytic and blastic mass that has permeative margins. The tumor frequently breaks through the cortex and lifts the periosteum resulting in reactive periosteal bone formation. The triangular shadow between the cortex and raised ends of periosteum is known radiographically as Codman's triangle and is characteristic, but not diagnostic of this tumor. There have been numerous other identified prognostic features for patient with conventional localized high-grade osteosarcoma. These include age of patient, size of tumor, skip lesions and alkaline phosphatase level. Alkaline phosphatase is released into the blood by osteosarcoma cells. An alkaline phosphatase blood test can help predict how serious the disease is. Physiologic basis: alkaline phosphatase is present in high concentration in growing bone (in children), in bile, and in the placenta. Biopsy: the site and the direction of biopsy must be chosen, that the area concerned can be easily resected. The tumor has many dividing cells and immature matrix (ACS). The presence of osteoid is the criterion for the histopathologic diagnosis. Differential diagnosis: chondrosarcoma, Ewing's sarcoma, malignant fibrous histiocytoma.

Treatment: proximal humeral resections usually require an extra-articular resection due to the high risk of intracapsular spread of the tumor. Unfortunately, extra-articular resection are usually associated with the worst functional results. Treatment with curative intent was difficult. For lesions that cannot be removed, clinical studies are now being conducted using intensified combination chemotherapy and high-dose, very well-coordinated and localized radiation. The total dosage of radiation needed is divided into fractions. This fractionation is, among other things, that

The normal tissues have time to recover to some extent before the next fraction is applied. Chemotherapy and radiation therapy were administered to kill and to shrink the cancer. The prognosis: patients with localized disease have a much better prognosis than those with overt metastatic disease. The prognosis is poor for patients with bone metastases who have recurrent or progressive metastatic osteosarcoma that is unspectacular. A number of potential prognostic factors have been identified but have not been tested in large numbers of patients.

SUMMARY

A 40-year-old woman suffering with weakness in her left arm was brought to hospital by her family. She complained of pain in her left arm and had difficulty raising her arm. There was a lump around the left proximal humerus. She had macrosparesia. Lymphatic spread: axillary lymph nodes were negative. Laboratory investigation: WBC and alkaline phosphatase were high. The first x-ray of the left humerus showed that the upper and lower humerus was separated by a tumor. The second x-ray showed increased damage by a sunny-type tumor, Codman's triangle. Chest x-ray: pleural metastatic, Biopsy: high grade osteosarcoma, T,N,M, (clinical). The general condition of the patient was not good and surgery was delayed. Radiation and chemotherapy (adriamycin) were used in combination. The patient died one month later.

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