MALIGNANT FIBROUS HISTIOCYTOMA OF BONE

Case Report

History

A 41-year-old black man presented with the complaint of pain that had been present in his right knee for two months. The pain was localized to the anterior aspect of the distal femur. It was worse at night and when the patient was lying down, but seemed to be relieved by ambulation. He had no history of any trauma. He had lost 40 pounds over the last 3 months; there was no history of any prior malignancy.

Physical Examination

The patient was thin but did not appear ill. He was afebrile. The pertinent findings were limited to his right lower extremity. A moderate effusion was present. There was no ligamentous laxity of the knee joint. The anterior aspect of the right distal femur was tender to palpation. No soft-tissue mass was palpable in the thigh. Range of motion of the knee was 5 to 110 degrees of flexion. The patient walked with a painful limp on the right side.

Roentgenographic Examination

X-ray film showed a lytic area involving the distal metaphysis of the right femur. Periosteal reaction was seen in the medial aspect of the femur (Fig. 1). A soft-tissue density was evident anterior to the area of the cortical destruction (Fig. 2). Bone infarcts were present bilaterally in the distal area of the femur and proximal tibia. The chest x-ray film was normal.

Technetium bone scan indicated involvement only in the distal right femur.

Laboratory Data

Results of complete blood count and urinalysis were normal, alkaline phosphatase was not elevated, and hemoglobin electrophoresis was normal.

Fig. 1: AP roentgenogram of right knee which shows a lytic area in the distal metaphysis and a periosteal reaction in the medial aspect of the femur.

Treatment

A biopsy specimen was taken from the lesion in the distal area of the right femur. The histologic examination indicated that the lesion was a malignant fibrous histiocytoma (Fig. 3).

The patient underwent a right hip disarticulation. After wound healing, chemotherapy with adriamycin and DTIC-Dome (Dacarbazine) was begun. Six months after the amputation, the left femur became painful and a technetium scan showed increased uptake in this area, requiring further evaluation.
Brief Summary of Prescribing Information

STADOL® (butorphanol tartrate)

For complete information, consult Official Package Circular.

INDICATIONS AND USAGE—Stadol is recommended for the relief of moderate to severe pain. Stadol can also be used for preoperative or prononsurgical medication, as a supplement to balanced anesthesia, and for the relief of prepartum pain.

CONTRAINDICATIONS—Stadol should not be administered to patients who have been shown to be hyposensitive to it.

WARNING—Patients Physically Dependent on Narcotics: Because of its antagonist properties, Stadol is not recommended for patients physically dependent on narcotics. Detoxification in such patients is required prior to use. Due to the difficulty in assessing addiction in patients who have recently received substantial amounts of narcotic medication, caution should be used in the administration of Stadol. Detoxification of such patients prior to usage should be carefully considered.

Drug Dependence: Special care should be exercised in administering Stadol to emotionally unstable patients and to those with a history of drug misuse. When long-term therapy is contemplated, such patients should be closely supervised. Even though Stadol has a low physical dependence liability, care should be taken that individuals who may be prone to drug abuse are closely supervised. It is important to avoid increases in dose and frequency of injections by the patient and to prevent the use of the drug in anticipation of pain rather than for the relief of pain.

Head Injury and Increased Intracranial Pressure: Although there is no clinical experience in patients with head injury, it can be assumed that Stadol, like other potent analgesics, elevates cerebrospinal fluid pressure. Therefore the use of Stadol in cases of head injury can produce effects (e.g., myosis) which may obscure the clinical course of patients with head injuries. In such patients Stadol must be used with extreme caution and only if its use is deemed essential.

Cardiovascular Effects: Because Stadol increases the work of the heart, especially the pulmonarv circuit, the use of this drug in acute myocardial infarction or in cardiac patients with ventricular dysfunction or coronary insufficiency should be limited to those who are not hypersensitive to morphine sulfate or its derivatives.

PRECAUTIONS—Certain Respiratory Conditions: Because Stadol causes some respiratory depression, it should be administered only with caution and low dosage to patients with respiratory depression (e.g., from other medication, uremia, or severe infections), severely limited respiratory reserve, bronchial asthma, obstructive respiratory conditions, or cyanosis.

Impaired Renal or Hepatic Function: Although laboratory tests have not indicated that Stadol causes or increases renal or hepatic impairment, the drug should be administered with caution to patients with such impairment. Excessive liver dosage may predispose to greater side effects and greater activity from the usual clinical dose, possibly the result of decreased metabolism of the drug by the liver.

Biliary Surgery: Clinical studies have not been done to establish the safety of Stadol administration to patients about to undergo surgery of the biliary tract.

Usage as a Preoperative or Prononsurgical Medication: Slight increases in systolic blood pressure may occur, therefore caution should be employed when Stadol is used in the hypotensive patient.

Usage in Balanced Anesthesia: The use of p远景gram in combination with Stadol may cause an increase in conjunctival changes.

Usage in Pregnancy: The safety of Stadol for use in pregnancy prior to the labor period has not been established; therefore, this drug should be used in pregnant patients only when in the judgment of the physician its use is deemed essential to the welfare of the patient.

Reproduction studies have been performed in rats, mice and rabbits and have revealed no evidence of impaired fertility or harm to the fetus due to Stadol at about 2.5 to 3 times the human dose.

Usage in Labor and Delivery: Safety to the mother and fetus following administration of Stadol during labor and for the first established. Patients receiving Stadol during labor have experienced no adverse effects other than those observed with commonly used anesthetics. Stadol should be used with caution in women delivering premature infants.

Usage in Nursing Mothers: The use of Stadol in lactating mothers who are nursing their infants is not recommended since it is not known whether this drug is excreted in human milk. Stadol has been used safely for labor pain in mothers who subsequently nursed their infants.

Usage in Children: Safety and efficacy in children below age 18 years have not been established.

ADVERSE REACTIONS—The most frequent adverse reactions in 1250 patients treated with Stadol are: sedation (50, 4%), nausea (9, 8%), clammy sweating (5, 9%). Less frequent reactions are: headache (5, 2%), vertigo (3, 3%), floating feeling (3, 3%), dizziness (2, 3%), lethargy (19, 9%), confusion (15, 7%), lightheadedness (12, 1%). Other adverse reactions which may occur (reported incidence of less than 1%) are:

CNS: nervousness, unusual dreams, agitation, euphoria, hallucinations

Autonomic: flushing and warmth, dry mouth, sensitivity to cold

Cardiovascular: palpitation, increase or decrease of blood pressure

Gastrointestinal: vomiting

Respiratory: slowing of respiration, shallow breathing

Dermatologic: rash or hives

Eye: diplopia or blurred vision

OVERDOSE—Manifestations: Although there have been no experiences of overdosage with Stadol during clinical trials, this may occur due to accidental or intentional misuse as well as therapeutic use. Based on the pharmacology of Stadol, overdosage could produce some degree of respiratory depression and variable cardiovascular and central nervous system effects.

Treatment: The immediate treatment of suspected Stadol overdosage is intravenous naloxone. The respiratory and cardiac status of the patient should be evaluated and supported. Appropriate supportive measures should be instituted, such as oxygen, intravenous fluids, vasopressors, and assisted or controlled respiration.

Fig. 2: Lateral roentgenogram showing destruction of the anterior cortex.

Fig. 3: Histologic specimen showing pleomorphic appearance of histocyte-like cells, benign and malignant giant cells, foam cell, and areas of spindle cells.
Discussion

The usual presenting symptom of fibrous histiocytoma is pain with or without associated swelling. Occasionally, the patient may have a pathologic fracture. The most frequent site for this tumor is the femur, followed in frequency by the tibia, humerus, trunk, and retroperitoneal area.

The roentgenograms show a lesion in the metaphysis of long tubular bones. These lesions are highly destructive with little evidence of periosteal reaction. The extent of the tumor is frequently underestimated because it infiltrates the bone marrow without causing any secondary response.

The surgical pathology reveals a highly destructive lesion of the bone with little evidence of periosteal new bone formation. Microscopically, this lesion is noted for its pleomorphic appearance, with sheets of histiocytoid-like cells, benign and malignant giant cells, foam cells, and areas of spindle cells. Abnormal myototic figures are frequent. This lesion has been associated with Paget's disease of the bone. The lesion has been found to have a relationship with bone infarcts. Sarcomatous degeneration should be suspected in an area of bone infarction with increasing pain, swelling, and a lytic lesion visible on x-ray film. A pathologic fracture may be the first presenting finding. Persons with multiple bone infarcts as encountered in Caisson's disease, sickle cell disease, or hereditary bone dysplasia seem to be at risk.

Treatment has been ablation of the involved bone. Chemotherapy is being used as an adjuvant, but long-term survival with chemotherapy is really not known. The four-year survival for patients having tumors located in deep structures has been reported to be 34%.

Eugene J. Dabezies, MD
Robert Shackleton, MD
Department of Orthopaedic Surgery
Louisiana State University
1542 Tulane Ave.
New Orleans, LA 70112
(Address reprints requests to Dr. Dabezies)

References