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Surgical procedures for long bone metastases

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Background:
The main goals of surgical procedures for long bone metastases patients are stabilization of impending or established pathological fractures. Surgeon has to decide to perform segmental resection or perform bone stabilization only. It is very important to predict a patient survival value for correct operation.
Methods and Materials:
A review of a prospectively maintained surgical database identified patients for whom surgery was done for long bone metastases. Of these 104 patients, 57 were operated for limb salvage and 47 had not have surgeries because bad general condition. We performed 28 modular endoprosthesis replacement, 16 plate or nail osteosinthesis + bone cementation, 13 palliative intramedullary fixation without segmental bone resection. The most common site of involvement included the proximal femur (41), proximal humerus (25) and distal femur (12). There were renal cell carcinoma (32), lung carcinoma (19) and breast carcinoma (16). We have used method of discriminant analysis for detect a prognostic survival rate of patient with metastatic lesions. Thanks discriminant analysis we could make right indications for different types of surgery.
Results:
Indications for surgery based on patient separation for three survival rate groups. The first group of patients (survivoship till 6 month) with 4 ASA stage (according American Anaesthesiology Scale) with or without pathologic fractures were not operated (47 cases). The first group of patients with 3 ASA stage with pathologic fracture had had an internal fixation only without resection of pathologic bone lesion (13 cases). And the patients from second (survivoship from 6 to 24 month) and third (survivorship longer 2 years) with or without pathologic fractures had had bone metastatic resection and intercalary (plate or nail osteosinthesis + bone cementation) or endoprosthesis replacement (57 cases). Site-specific function was restored and pain controlled for all patients who maintained their limbs.
Conclusion:
The final decision for a certain surgical procedure of metastatic long bone lesions bases on patients survival rate, that could be predict according data of our created computer program and ASA stage. Right selected indications and correct surgery are a low morbidity procedure that provides immediate restoration of function, pain relief, durable stability and better quality of life.

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