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Resumo	Background: Osteosarcoma, a malignant tumor characterized by bone or osteoid formation, is the second most common primary bone neoplasm. Clinical symptoms include local and surrounding pain, unrelieved by rest or anesthesia. Osteosarcoma has a poor chemotherapeutic response with prognosis dependent on complete tumor excision. Therefore, for inoperable osteosarcoma new therapeutic strategies are needed. The present study aimed to develop murine models of cranial and vertebral osteosarcoma that facilitate simple clinical monitoring and real-time imaging to evaluate the outcome of photodynamic therapy based on a previously developed photosensitizer. Methods: Balb/c nude mice were divided into two groups: the cranial and vertebral osteosarcoma groups. Each group was further subdivided into the photodynamic therapy-treated and untreated groups. Images were obtained by scintigraphy with ^{99m}Tc-MIBI and radiography. Tumor growth, necrotic area, osteoid matrix area, and inflammatory infiltration were analyzed. Results: Cranial and vertebral tumors could be macroscopically observed and measured. Radiographic and scintigraphic images showed tumor cells present at the inoculation sites. After photodynamic therapy, scintigraphy showed lower tumoral

	radiopharmaceutical uptake, which correlated histologically with increased necrosis. Osteoid matrix volume increased, and tumor size decreased in all photodynamic therapy-treated animals. Conclusion: Cranial and vertebral osteosarcoma models in athymic mice are feasible and facilitate *in vivo* monitoring for the development of new therapies. Photodynamic therapy is a potential antitumoral treatment for surgically inoperable osteosarcoma.
Fomento	