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TREATMENT OF PULMONARY METASTASIS OF OSTEOSARCOMA*Pavlo Kovalchuk¹, Anatoliy Diedkov², Grigoriy Klymnyuk², Sergiy Bojchuk², Victor Kostyuk²**¹⁾ National cancer institute ²⁾, Ukraine*

Background: Using up-to-date schemes of chemotherapy allows to achieve 60-75% survival rate in patients with localized osteosarcoma. 25-40 % of patients develop metastasis (95% of them are pulmonary) during first 3 years. Metastasis treatment consists of second line chemotherapy and surgical or radiation treatment.

Methods: 260 patients with localized osteosarcoma, 10 to 21 years old (median age 16.8), treated in National cancer institute (Kiev, Ukraine) between 2003 and 2010 were identified. 89 patients had pulmonary metastasis after the treatment. Metastasis were detected between 6 and 38 months after the treatment (median - 22.3 months). All these patients received chemotherapy including carboplatin 600 mg/m², etoposide 300 mg/ m² by the scheme: 3 neoadjuvant courses and 3 adjuvant courses with 21 day interval. Stabilization of the process was achieved in 61 patients (68.5%). 29 (33%) of them underwent metastasectomy, 60 (67%) patients were considered inoperable and underwent palliative radiation therapy (15 Gray on each lung). Metastasectomy was not performed because of the tumor progression despite chemotherapy or impossibility to remove all of the pulmonary metastasis. In 1 group 3 (3,4%) patients had one lung affected, 26 (29%) patients had bilateral metastatic affection (from 2 to 22 metastasis on each side). The single-step bilateral pulmonary resection was performed in 3 patients with bilateral metastatic affection, in 23 other patients metastasectomy was performed with the 10-14 day interval.

Results: 5 years overall survival was 12.4%. In surgical treatment group 5 years survival was 35.6%, in conservative treatment group – 1.7% (pConclusion: Prognosis in metastasis relapse of osteosarcoma depends on the response to chemotherapy and the possibility to perform surgical removal of the metastasis.

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