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Treatment and outcome of childhood metastatic rhabdomyosarcoma: ten years' single institution experience

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Introduction: Multimodality therapy involving surgery, chemotherapy and radiotherapy is necessary in childhood RMS but the optimal use, timing and intensity of these three treatment modalities must be planned with regard to known prognostic factors including the age of the patient, site and size of the primary tumour, extent of disease, pathological subtype and the predicted consequences of treatment.
Aim: Presentation of our experience in the treatment of children suffering from metastatic rhabdomyosarcoma.
Patients and Methods: Evaluation of seven patients with metastatic rhabdomyosarcoma (5 girls and 2 boys), treated between 2004 and 2014, according to the CWS-2002 and CWS-2009 protocol. Their age ranged between 4 and 18 years. In four patients rhabdomyosarcoma embryonale and in three patients rhabdomyosarcoma alveolare was diagnosed. All patients had primary tumor in unfavorable site. Five patients had regional pathological nodal involvement, two patients had two sites of metastatic disease, and one patient had bone marrow involvement. Chemotherapy consisted of the typical treatment scheme for primary metastatic soft tissue tumours. One patient with bone marrow involvement was underwent high dose chemotherapy with stem cell support. Six patients were irradiated and three patients underwent marginal resection.
Results: Estimated outcome for all patients, four patients died during chemotherapy (including patient who underwent high dose chemotherapy with stem cell support) because of the progression of desease, but three of seven patients are alive with median follow up of 18 months. Two of three alive patients had regional pathological nodal involvement and they were treated with chemotherapy, irradiation and surgery. The third patient had regression of pulmonary metastases during chemotherapy and local control was achieved with radiotherapy without surgery because of mutilation.
Conclusions: The results of treatment for children with metastatic RMS remain so poor and patients with very poor prognosis need new, more effective therapy strategies. Optimal treatment strategies for metastatic RMS may open many controversial issues such as duration of therapy, value of high dose chemotherapy with stem cell support, the consequences of local therapy modalities and surgery of metastases.