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Early Secondary Leukemia after a Relapsed Wilms' Tumor

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Background. Wilms' tumor (WT) is the most prevalent childhood renal neoplasm. Although overall cure rate is high, relapse occurs in 15% of patients. Another concern is the emergence of treatment related secondary malignancies of which acute myeloid leukaemia represents 15-20%. It usually occurs 3-10 years after initial therapy and is particularly devastating.

Case. A 6 year old girl with metastatic WT (lungs, nodules size >5 mm) was treated in our hospital. The patient has a healthy monozygotic twin. Preoperative AVD chemotherapy was given by Umbrella SIOP-RTSG 2016 protocol. Following 6 weeks of preoperative chemotherapy, metastasis were absent in chest CT. Postoperative treatment after nephrectomy was given according to local stage (III) and histology (intermediate risk tumor - mixed type nephroblastoma): regimen AVD250 and flank irradiation.

7 months from nephrectomy first early lung relapse was confirmed. Histology assessment showed blastema with focal anaplasia. Complete remission achieved after BB risk group treatment by Umbrella protocol: chemotherapy ICE/CyCE, surgery, HD-LPAM with autologous PBSC rescue and pulmonary RT. Early relapse and blastema component were unexpected for us therefore primary tumor histology reassessment was done.

Second lung relapse emerged 5 months after end of treatment. After nonradical excision of tumor masses histology showed diffuse anaplasia. Salvage VIT therapy was started. 8 months later a very early secondary acute monoblastic leukaemia arose (M5 according to FAB). Treatment was initiated by NOPHO-DBH 2012 protocol. Dynamics in bone marrow aspirate after 3 chemotherapy courses was positive. Our patient was in the allogeneic bone marrow transplantation waiting list. However, chest CT revealed lung metastasis progression. Sadly exhaustion of all active treatment options was concluded. Currently the patient receives metronomic therapy.