Myolodysplastic Syndromes (MDS)

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The Myelodysplastic Syndrome (MDS) is a large group of acquired bone marrow diseases. In former times these diseases were called preleukemia, smoldering leukemia etc. MDS is mostly found in elderly people. It is characterized by increasing failure of the bone marrow function. However, compared to aplastic anemia, in MDS the bone marrow is hypercellular. The hematopoiesis is ineffective and leads to peripheral pancytopenia.

All cell types in the peripheral blood smear, as well as in the bone marrow show dysmorphic signs:

- Erythropoiesis: The erythroblasts have budding nuclei and we find erythroblasts with more then one nucleus. There is a tendency to macrocytosis.
- Myelopoiesis: The granulocytes have reduced or even lacking granulation, Pelger abnormality and Auer rods.
- Megakaryopoiesis: In the peripheral smear we find giant platelets and in the bone marrow atypical and often very small megakaryocytes (dwarf megakaryocytes).

According to the French American British Classification System the MDS has five types, which are differentiated by the number of myeloblasts and the survival time. These types are:

1. Refractory Anemia (RA); 2. Refractory Anemia with Ring Sideroblasts (RARS); 3. Refractory Anemia with eccess of blasts (RAEB); 4. RAEB in transformation (RAEB-t); 5. Chronic myelomonocytic leukemia (CMML).

Besides the primary MDS, there also is a secondary MDS, which occurs after chemotherapy with alkylating substances.

In MDS-patients we find typical chromosomal abnormalities. The most relevant are 5q-, the –7 and the +8 syndrome.

Unfortunately so far there is no specific treatment for this disease.