

Myelodysplastic Syndromes

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Background and Why?

- Described in 1900
- Defined as MDS only in 1982-abnormal clone (don't think it spreads like breast cancer)
- No interest in studying MDS
- New research, novel treatments and more emphasis on disease biology

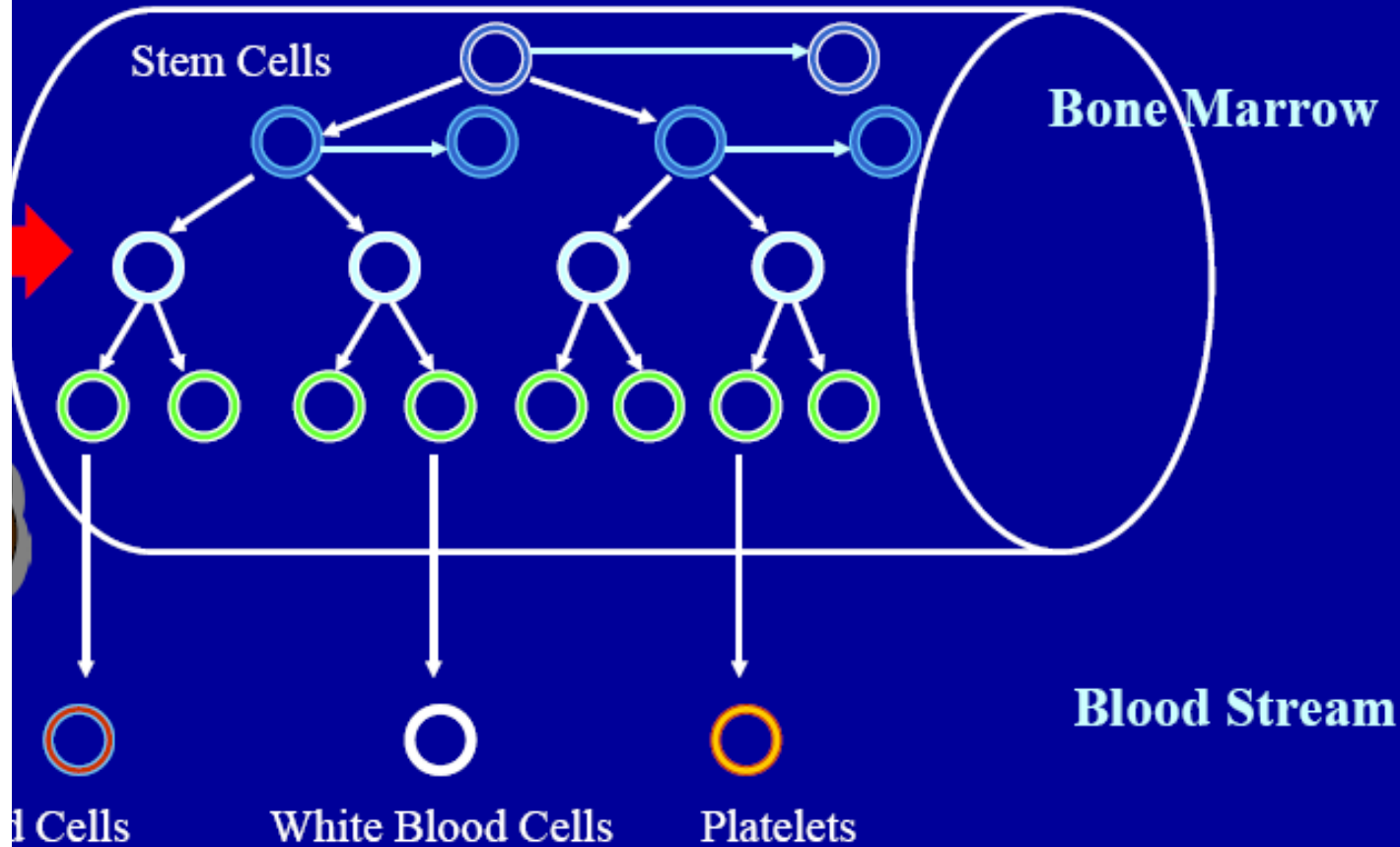
What does the term "myelodysplastic" actually mean?

- **Myelo** = marrow
- **Dysplastic** = abnormal or just gone bad or funny looking

Bone marrow cells fail to make enough healthy blood cells- quantity and quality is affected.

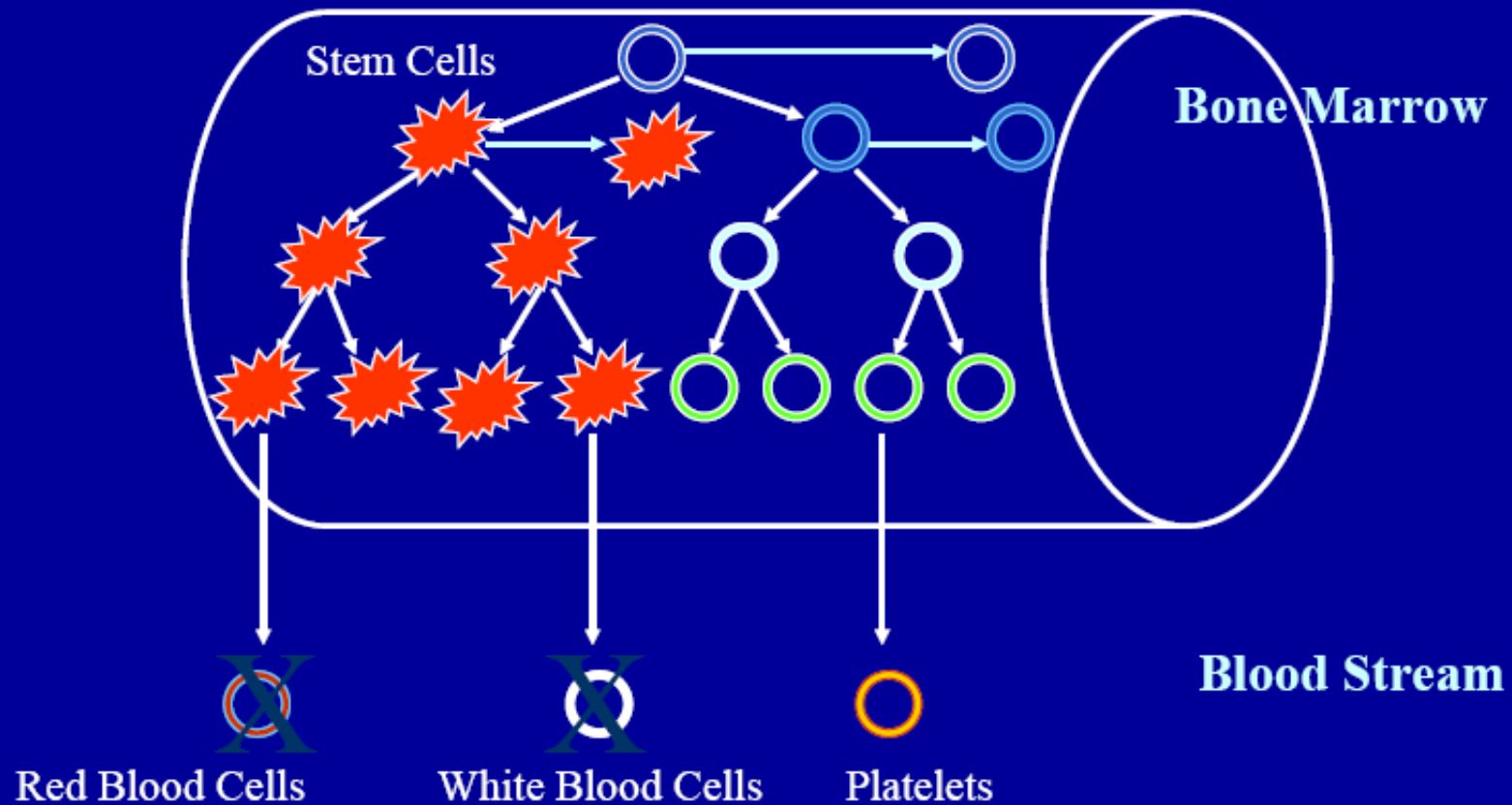
- Crowding out remaining normal cells
(Cancer)

Bone Marrow Basics



Red Blood Cells
20 trillion

MDS in the Bone Marrow (II)



MDS features

All people with MDS have two things in common

- Low count for at least 1 blood cell type (cytopenia)
- Bone marrow and blood contain blood cells with an abnormal shape, size, or look.

Symptoms of MDS

Asymptomatic – abnormal blood count

Fatigue, lack of energy and shortness of breath
- caused by anaemia (low red cells)

Bruising and bleeding
- caused by low platelet cell count

Infection
- due to low numbers and/or poorly
functioning white cells

Patients



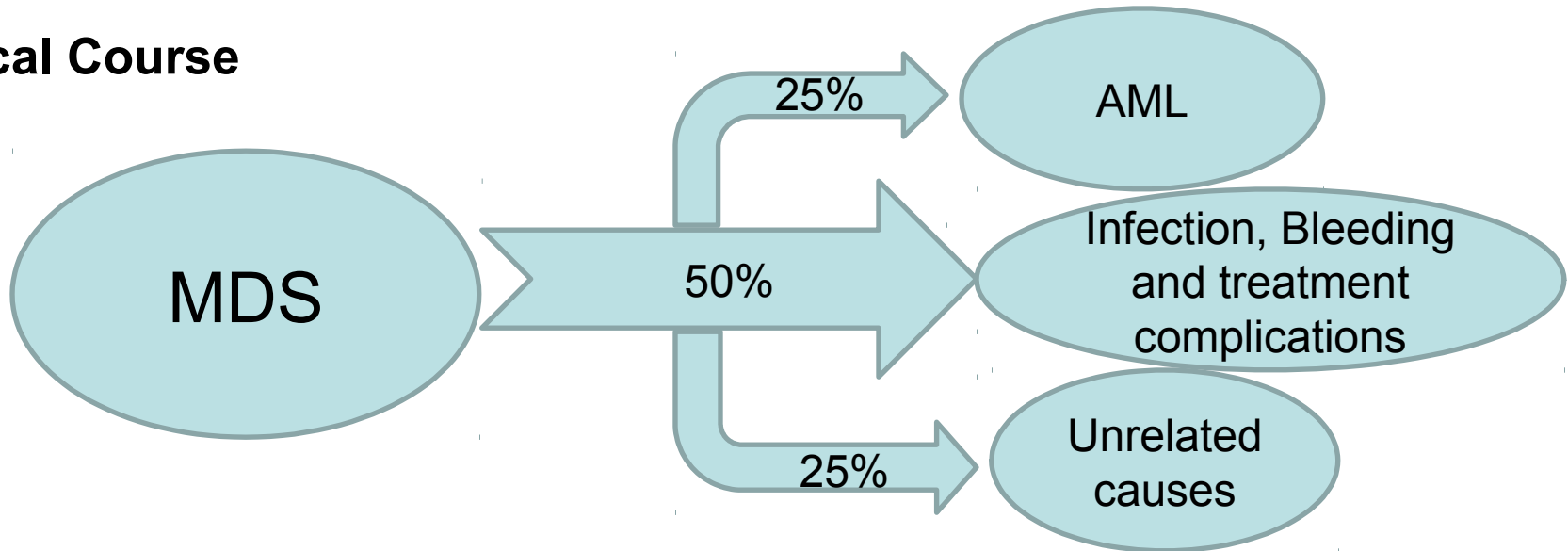
Median age is @
72 years

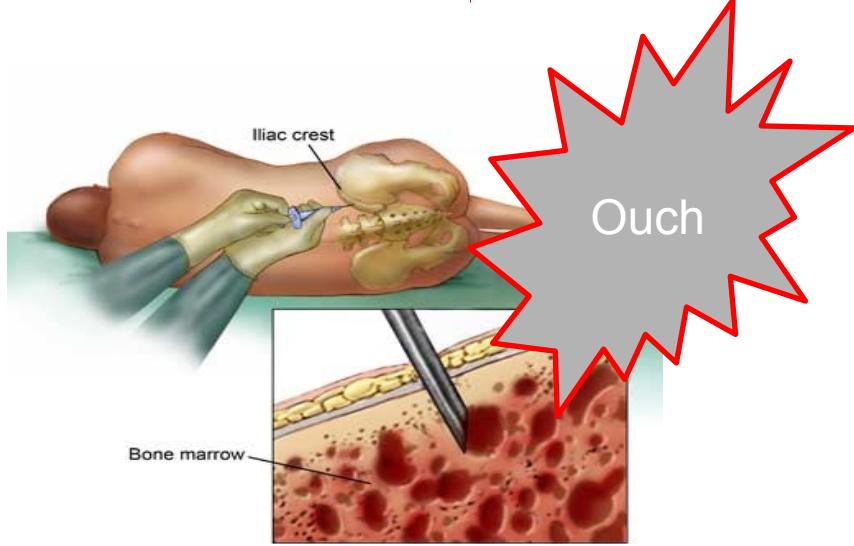


Prior exposure to chemo and
or radiotherapy, but 90% do
not have any known exposures



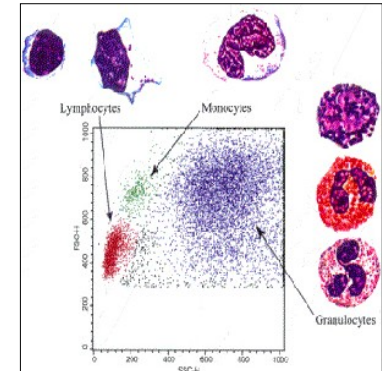
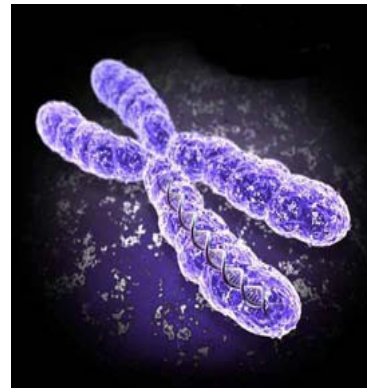
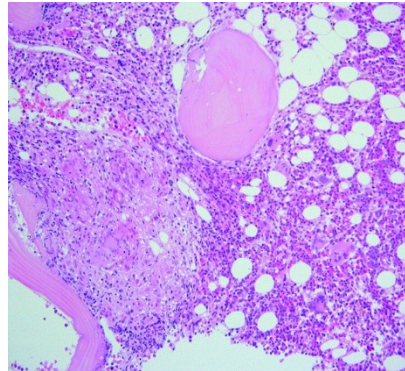
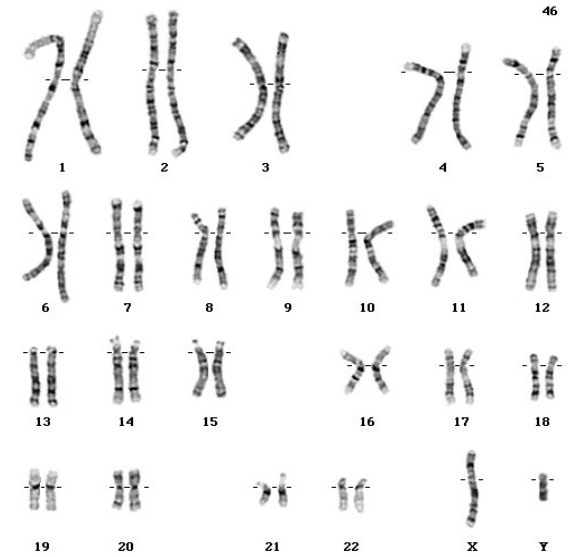
Clinical Course





Bone marrow aspirate
and trephine

Diagnostic Tests



Blood film/Aspirate

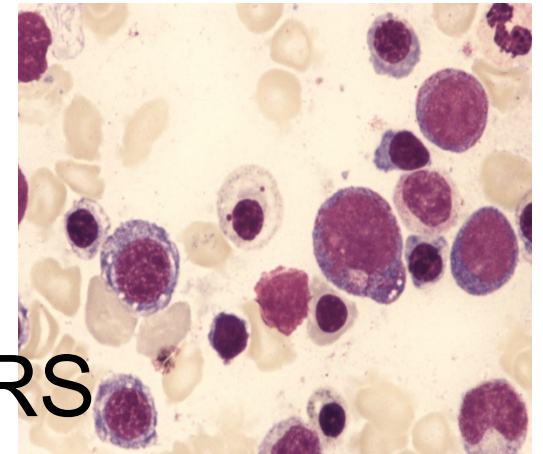
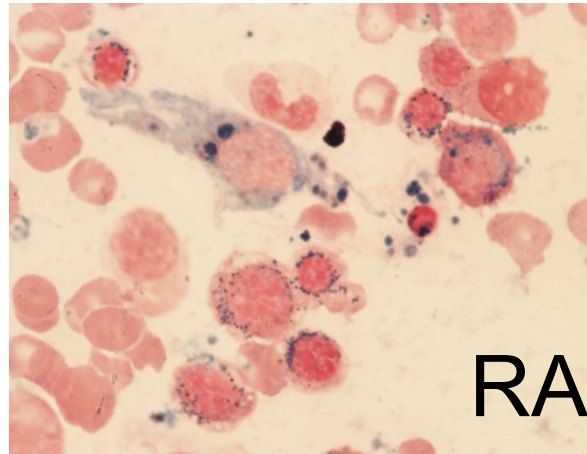
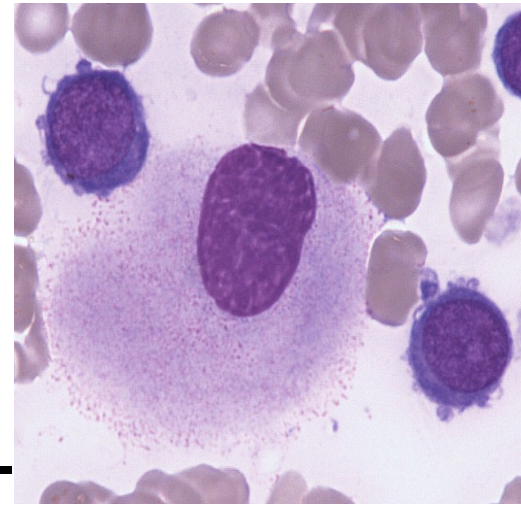
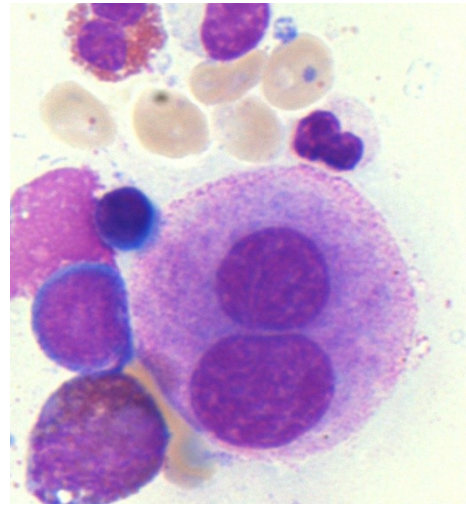
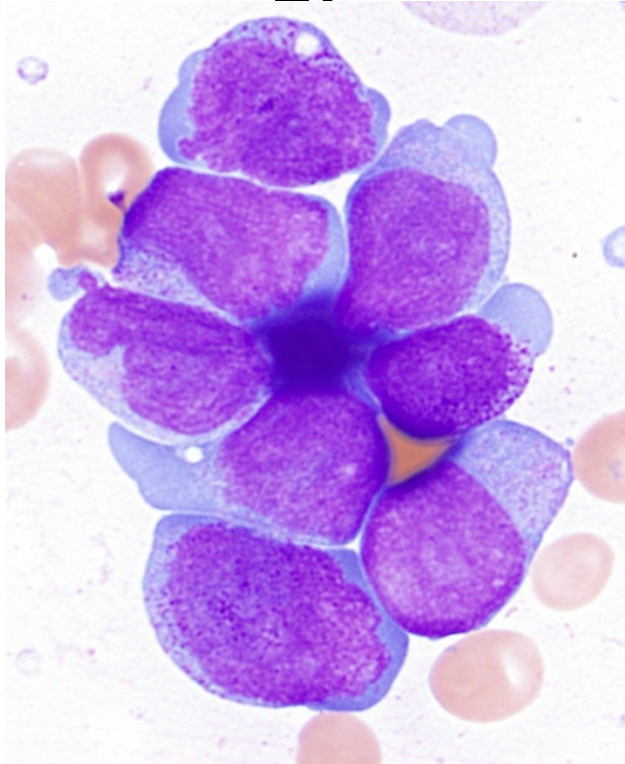
Trephine

Cytogenetics

Flow Cytometry

Morphology of MDS

Blasts (Type 1 and 2)

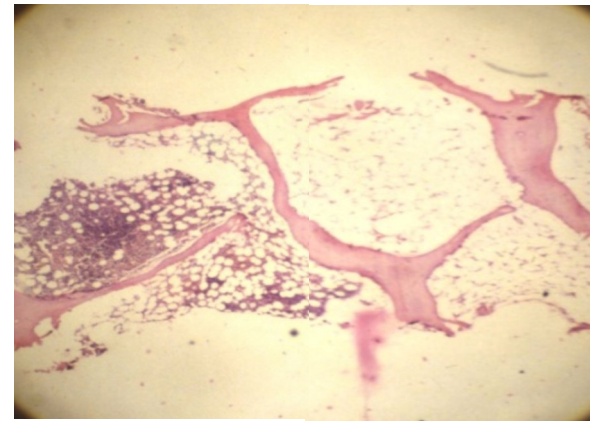
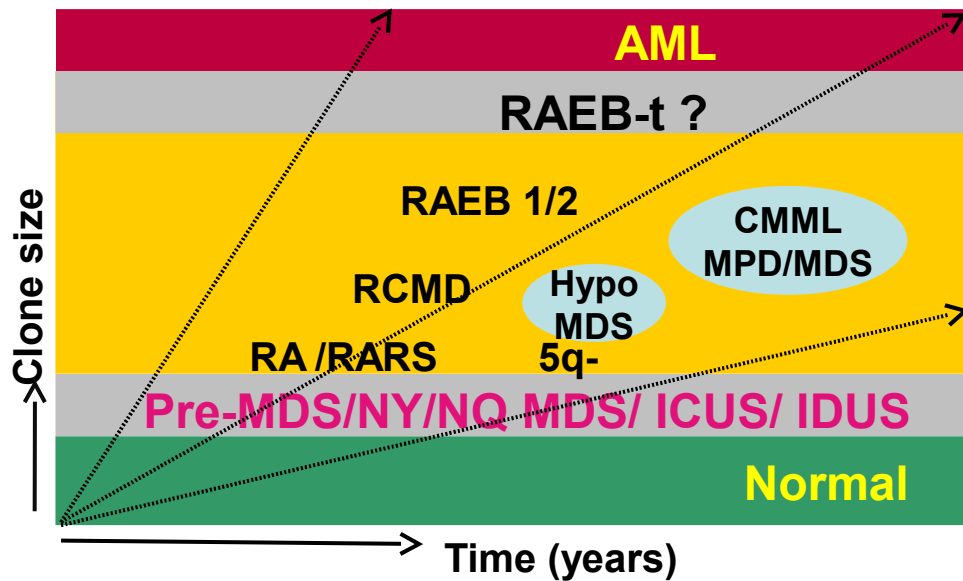


RARS

Beware of mimics, imposters, copycats and imposters

- Vitamin deficiency
- Other related disorders (aplastic anaemia)
- ICUS (Idiopathic Cytopenia of Unknown Significance)
- Nutritional and pharmacological toxicities
- Immune related conditions (lupus, rheumatoid and crohns/ulcerative colitis)

MDS-not a single entity?



MDS/AA

