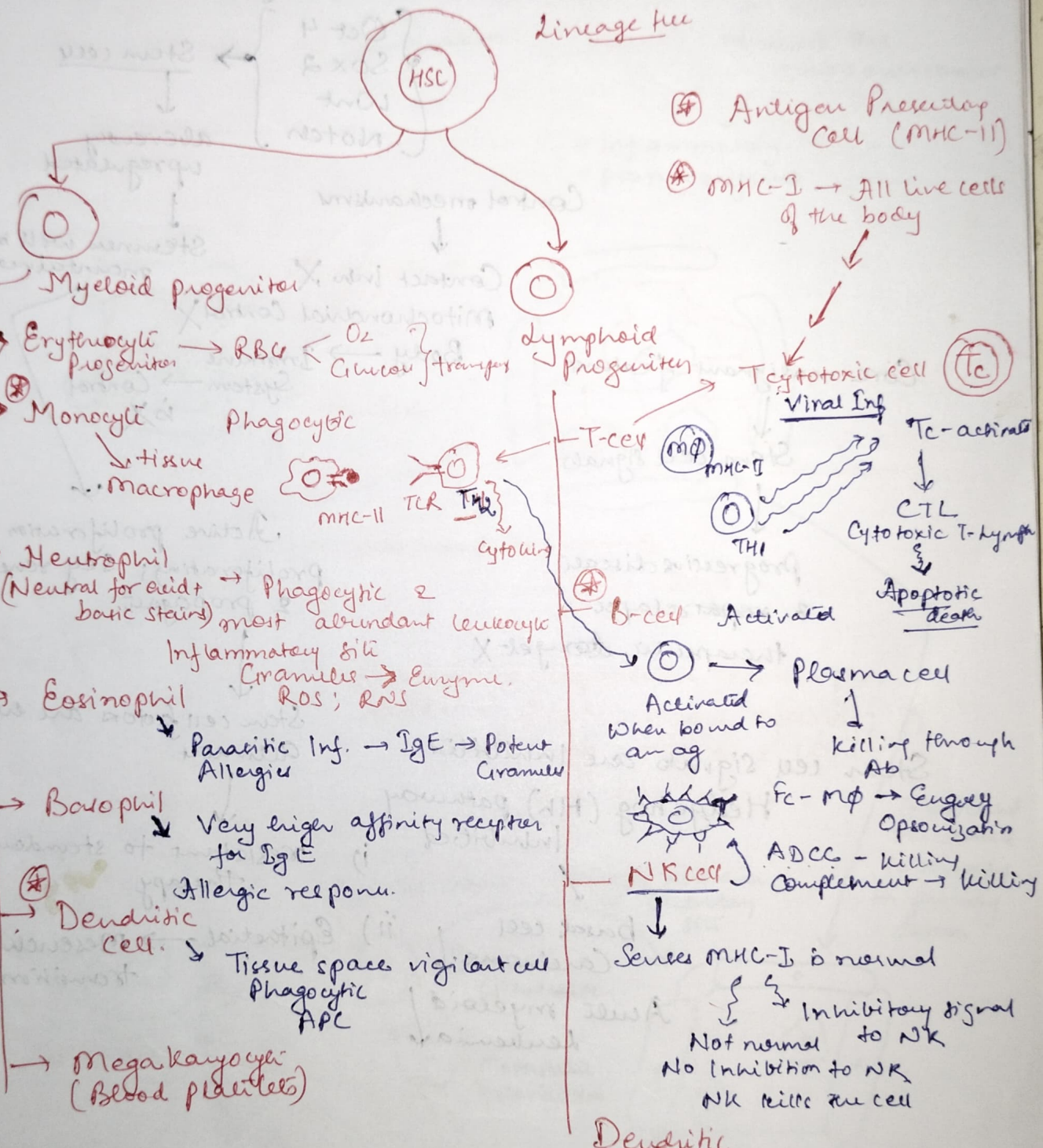
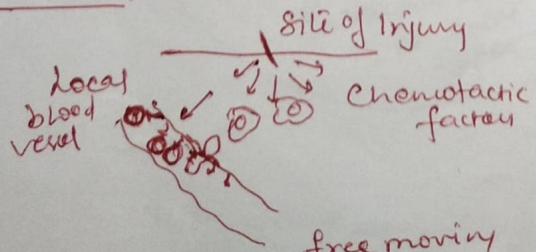
Role of Microenvironment in Cell fate decision and Cancer

31/08/22

Immune System plays a major role



Inflammation



i) Adhere
ii) Roll
iii) Trans-endothelial migration
iv) Site of Injury

Tumor → localised → metastatis → Cancer

resistant to therapy → Cancer / Tumor

Cell → malignant feature → by acquiring activation of classic Stem cell signals

{ Oct 4, Sox 2, Wnt, Notch } → Stem cell

Stem cell → aberrantly upregulated

Control mechanisms

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Contact Inh ✗

Mitochondrial Control ✗

Body → Immune System → Control is ✗

Stemness will be maintained

Core malignant features

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Stem cell signals

↓

Progressive disease & relapse

therapeutic target ✗

Active proliferation

Proliferating; Self renewing & propagate

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Stem cell factors are highly activated

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i) resistant to standard therapy

ii) Epithelial → Mesenchymal transition

Stem cell signals are Inhibited

Hedgehog (Hh) pathway Inhibited

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basal cell Carcinoma

Acute myeloid Leukemia