

Chromosomal Aberrations

Normal Prophase



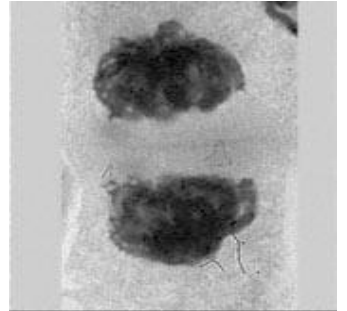
Normal Metaphase



Normal Anaphase

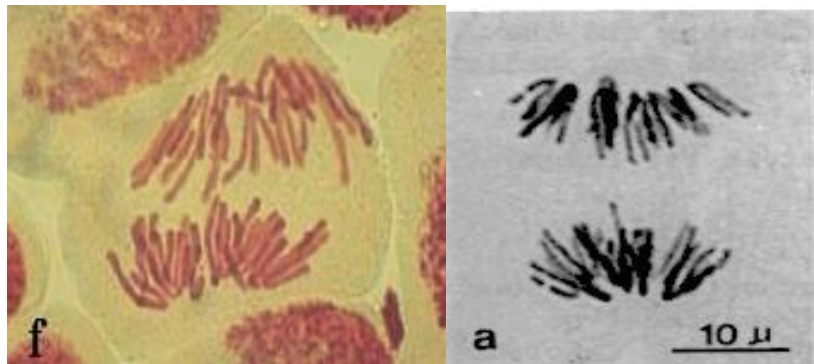


Normal Telophase

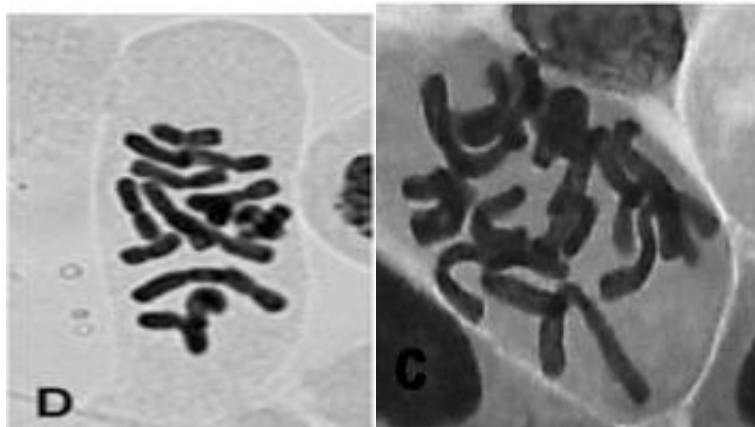


A) Spindle disturbances:

1- Multipolar anaphase

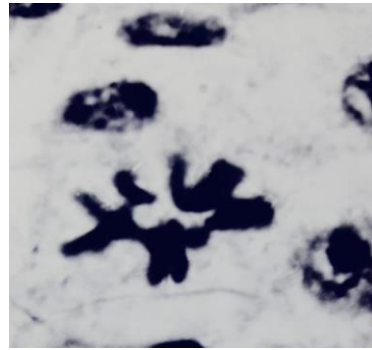
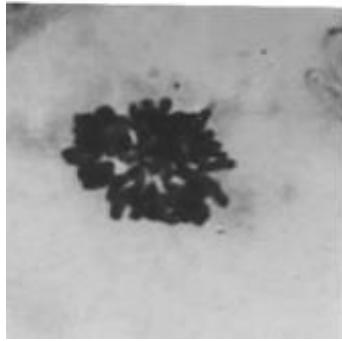


2- C-Mitosis

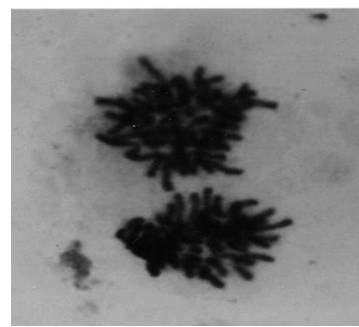
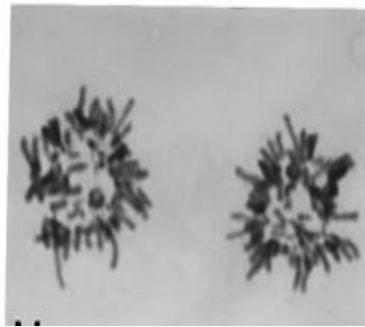


Chromosomal Aberrations

3- Star shaped metaphase/anaphase / telophase



Metaphase



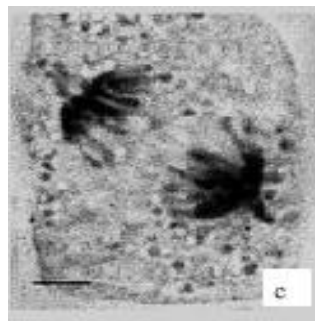
Anaphase

Telophase

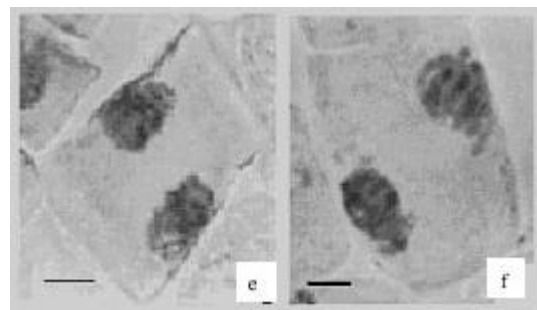
4- Diagonal figures



Metaphase and Anaphase



Anaphase

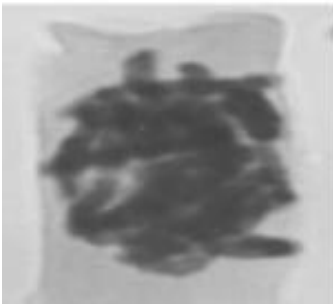


Telophase

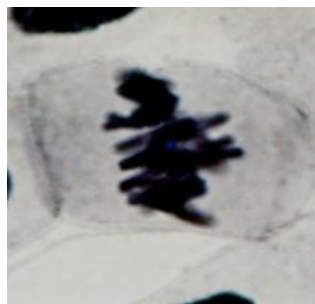
Chromosomal Aberrations

B) Nucleic acid disturbances:

Stickiness of chromosomes



Prophase



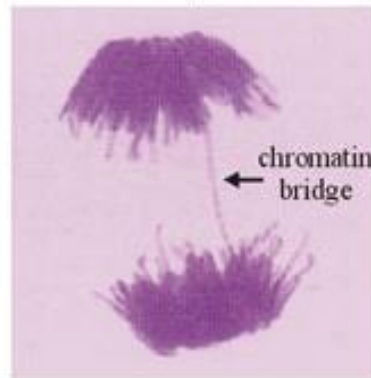
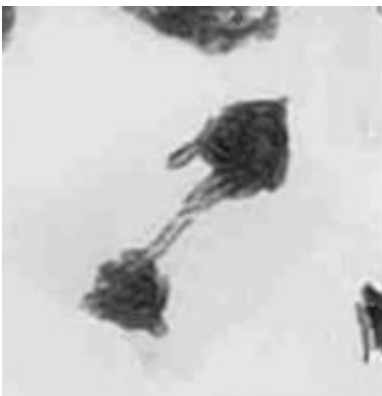
Metaphase



Anaphase

C) Chromosomal disturbances:

1- Chromosome bridges



2- Ring chromosome(s)

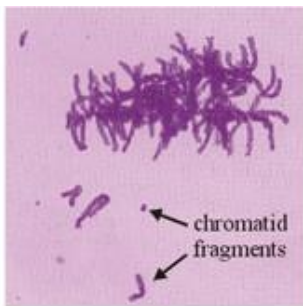


Chromosomal Aberrations

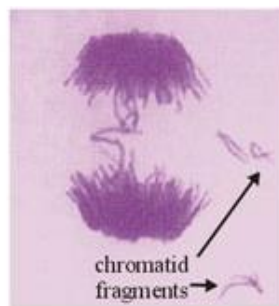
3- Lagging chromosomes (Laggards)



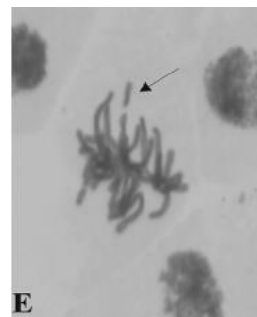
4- Chromosome breakage (fragmentation)



Metaphase



Metaphase



Anaphase

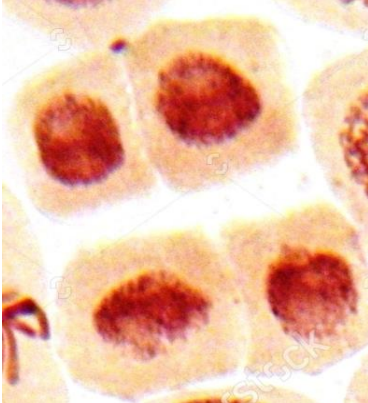
5- Chromosomal loss



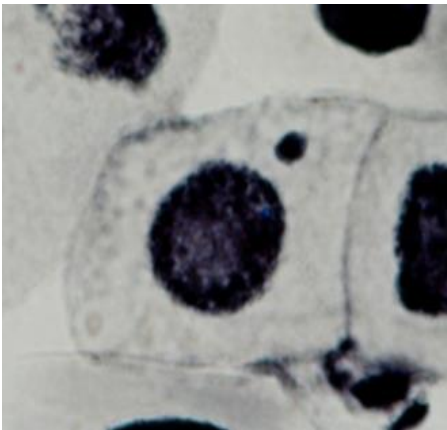
Chromosomal Aberrations

D) Nuclear disturbances:

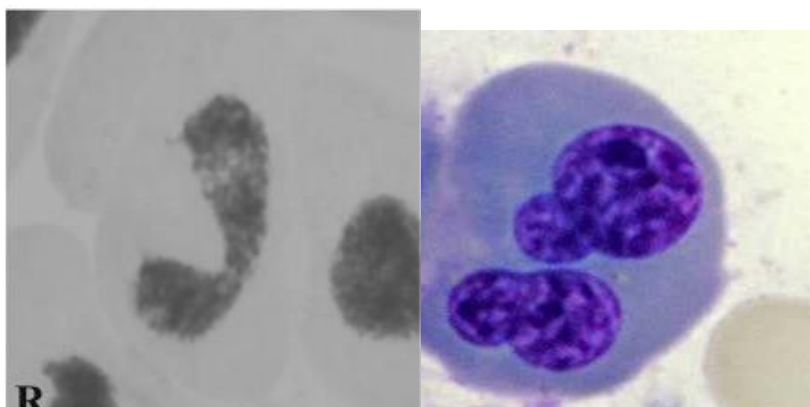
Normal Interphase



1- Micronuclei

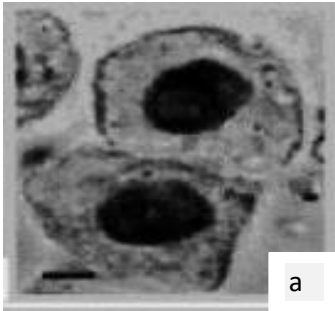


2- Nuclear budding

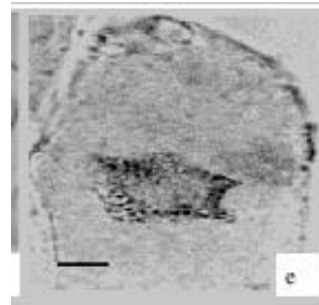
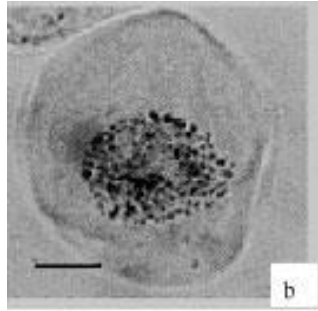


Chromosomal Aberrations

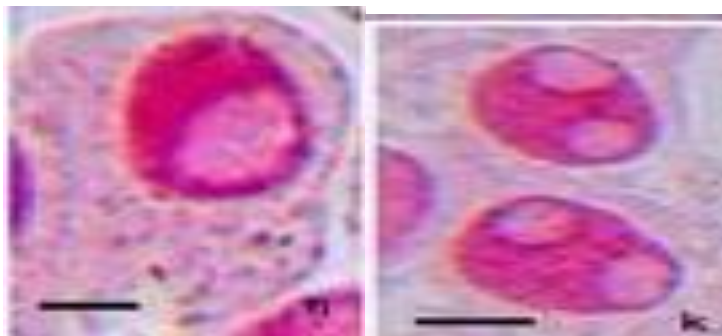
3- Pycnosis



Karyorrhexis

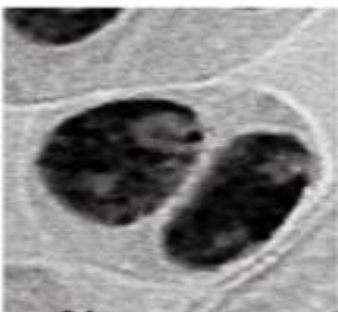


4- Nuclear Lesion(s)/ Vacuolated nucleus



E) Cytoplasmic disturbances:

Binucleated cell



F) Cellular disturbances:

Ghost cell

