MICRONUCLEI AND CHROMOTHRIPSIS

Cancer cells are known to harbor chromosome abnormalities. However, we still need model systems to study how abnormal chromosome patterns arise and how massive chromosomal rearrangements are gained by cancerous cells. Recently, a model system that makes it possible to study mechanisms of massive chromosomal rearrangements of any chromosome and their consequences in human cells has been proposed. This model, which sheds light on the phenomenon of chromothripsis, generates cell lines with individual chromosomes altered by genomic rearrangements through capture of a human chromosome in a micronucleus. Chromosomes trapped within micronuclei undergo a wide range of chromothripsis-like mechanisms. It was shown that chromothripsis provides a growth advantage to trisomic cells compared to cell lines carrying an intact extra chromosome. Importantly, the authors hypothesize that the cause of the lack of lamin B1 observed in the micro nuclei may be due to a higher curvature of the nuclear envelope, which may negatively affect the lamina assembly.