

Mitosis abnormalities usually results when there is a formation of two cells. The two cells result from the original cell as duplicates. This process results to one cell consisting of 46 chromosomes becoming two cells that contain 46 cells each. Basically, this is how the body cells are often made up and it occurs all over the body excluding the reproduction organs.

Trisomy is a term used to refer to the presence of three copies of a particular chromosome, instead of the normal two. Trisomy occurs in different forms. Down syndrome which consists of an extra chromosome 21 is referred to as trisomy 21. The two other autosomal trisomies, trisomy 13 and trisomy 18 are known as Patau syndrome and Edwards's syndrome respectively (Cummings, 64).

Nondisjunction is one of the mitosis abnormalities which results in trisomy. This usually happens due to a weakened mitotic checkpoint. These checkpoints are said to be weakened because they tend to delay cell division or stop cell division until all the machineries of the cell are set to advance to the next phase. The weakening of the checkpoint results in the cell's failure to notice a chromosome pair not been lined up on a mitotic plate. This might result to a normal separation of some chromosomes while others may fail completely to separate. Consequently, there is a generation of a daughter cell which lacks a copy and another daughter cell possessing an extra copy. Mitotic checkpoints which are completely inactive might usually result to non disjunction at multiple chromosomes. This can make the daughter cell to end up possessing a disjoint set of genetic material (Epstein, 181).

Trisomy 21 is usually caused by an extra chromosome 21 in the body. People affected by the Down syndrome are mostly retarded and posses a host of physical defects. Trisomy 21 at times is usually caused by the mixture of normal cells and cells possessing three copies of chromosome 21 (Epstein, 181).

Trisomy 18 is also referred to as trisomy E or Edwards syndrome. It is cause due to a genetic disorder. This disorder happens because of an extra chromosome 18. There is the presence of three copies of chromosome 18 in the cells.

Trisomy 13 results when the extra chromosome 13 is viewed in all or some of the body cells. The extra chromosome usually interferes with the normal development (Epstein, 182).

The general symptoms of trisomy include; a small head, which has abnormalities, Occiput; which entails a prominent back part of the head, palpabral fissures; this consists of narrow eyelid folds, ocular hypertelorisri; which is widely spaced eyes, ptosis; refers to drooping of the upper eyelids and lastly, absent radius; this involves clenched hands and under developed thumbs (Sharma, 108).

Other symptoms include arthogryposis which is related to Edwards syndrome. This is a muscle disorder which results to multiple joint contractures at birth. Omphalocele is a symptom which entails the intestines sticking out of the body (Sharma, 108).

The symptoms associated with Patau syndrome are rocker bottom feet which entail feet which are deformed, Cutis aplasia which is used to refer to a missing portion of hair or skin and holoprosencephaly which can be described as the failure in the proper division of the forebrain. The main symptom associated with Down syndrome is stunted growth which involves a delayed growth or lack of growth completely (Sharma, 109).

## **Works Cited**

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