

In addition to that they possess the ability to metastasize (establish new focal growth in distant sites, away from the original sites).

Malignant cells serve no useful purpose in the body. Instead, they occupy space and act as parasite by taking blood and nutrients away from normal tissues.

Malignant cells reproduce with the same sequence of events as normal cells, but they may have accelerated rate of replication, and their growth continues in uncontrolled fashion (Bast *et al.*, 2000).

### **1.3 Characteristics of normal cells**

They reproduce through (cell-cycle) according to predetermined sequence of events in response to a need (i.e. growth, tissue repair), and stop reproduction when the need has been met.

They are well differentiated in appearance and function. Thus, they can be examined under a microscope and tissue of origin determined (Siegel *et al.*, 2012).

### **1.4 The differences between neoplasm and their tissue of origin**

- 1- Cancer cells tend to be larger than normal cells.
- 2- There is an alteration in the nucleus-cytoplasm relationship within neoplasm.
- 3- Increased amount of RNA in cancer cells, suggesting that the heterochromatic region of the chromatin is significantly altered (Reya *et al.*, 2001).
- 4- The nucleus is usually more prominent in neoplasms than in normal cells, and more than one is usually observed.
- 5- A greater proportion of cells appear to be in normal or abnormal mitosis.
- 6- Chromosomal aberrations are frequently seen in neoplasms including: irregularity, suppression of the spindle and alteration in number, size and shape.