

FIGURE 7

Cancer Screening: What Can Be Found? What Can Be Done?

Many cancers are progressive in nature. In the example depicted here, a normal cell contains an inherited genetic mutation or an acquired one. At this juncture, a precancer cannot be detected with cancer screening tests but the cell is predisposed to becoming cancerous. As the cell multiplies and acquires more genetic mutations, it gains precancerous characteristics, and an increasingly abnormal precancerous lesion becomes detectable. Without any treatment, additional mutations accumulate over time and the precancerous lesion evolves into a cancerous lesion (tumor; T), then it spreads to nearby lymph nodes (N), and, as it becomes more advanced, ultimately it metastasizes (M). When a person is screened for a given cancer, there are several different things that can be found, and different

outcomes predicted based on the finding. For example, the screening test may show that there is no abnormality present; in this situation, the person should continue routine screening. The test may detect a precancerous lesion which can be removed or treated; in this situation, the screen has led to the prevention of a cancerous lesion developing. The test may find a cancer at an early stage of development, stage I or stage II, before it has spread and at a point at which it is more likely that the patient can be treated successfully. It also may find a cancer at a late stage of development, stage III or stage IV, when treatment is less likely to be curative. Treating or surgically removing a precancerous lesion or treating early-stage cancer is called cancer interception.

