Oncological Outcomes of Patients Undergoing Cancer Surgery

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Description

Cancer can be treated by surgery, chemotherapy, radiation therapy, hormonal therapy, targeted therapy (including immunotherapy such as monoclonal antibody therapy) and synthetic lethality, most commonly as a series of separate treatments (chemotherapy before surgery). The ideal, if seldom attained, goal of treatment is to completely eradicate the cancer without causing harm to the rest of the body, and this is frequently the case in actual practice. Surgery can sometimes do this, but its success is sometimes limited by tumours’ propensity to invade nearby tissue or move to distant areas through microscopic metastasis. Additionally, chemotherapy and radiotherapy can have a deleterious impact on normal cells.

Non-hematological tumours can theoretically be completely surgically removed to cure them; however this is not always possible. Prior to surgery, when the cancer has spread to other parts of the body, total surgical excision is typically not achievable. According to the Halstedian model of cancer development, tumours first develop locally before migrating to the lymph nodes and ultimately the rest of the body. This has increased demand for locally specific treatments like surgery for tiny malignancies. It is now known that even small localised cancers have the capacity to spread. Mastectomy for breast cancer, prostatectomy for prostate cancer, and lung cancer surgery for non-small cell lung cancer are a few examples of surgical treatments for cancer. The removal of the entire organ or just the tumour may be the aim of the procedure. Recurrence is the process by which a single cancer cell, which is undetectable to the human eye, recurs and forms a new tumour. To reduce the possibility that tiny cancer cells are still present in the patient, the pathologist will analyse the surgical specimen to see if a margin of healthy tissue is there.

Surgery is frequently required for staging, such as identifying the severity of the cancer and whether it has spread to nearby lymph nodes, in addition to the removal of the original tumour. The requirement for adjuvant therapy and the prognosis are both significantly influenced by staging. Surgery may occasionally be required to treat symptoms like spinal cord compression or intestinal obstruction. Palliative care is what is used in this situation. The timing of surgery in relation to other treatments is flexible. Neoadjuvant is a term used to describe treatments given before surgery. Patients with breast cancer who undergo neoadjuvant chemotherapy had a similar chance of survival to those who receive treatment after surgery. Early chemotherapy administration enables oncologists to assess the treatment’s efficacy and may facilitate tumour excision. Neoadjuvant treatment for lung cancer has benefits for survival, although these benefits are less certain. Surgery for cancer is frequently a big procedure. The consequences of surgery on the body as a whole are still being studied by researchers, which is why. A single, big cut (incision) is frequently required during “open surgery.” When cancer is discovered in just one area of the body and it is expected that the entire cancer can be removed, curative or primary surgery is typically performed. The reason the operation is referred described as “curative” is because it aims to totally eradicate all cancer. Surgery may be the primary treatment in this situation. When a surgeon can access a tumour and the tumour is localised, surgery is an effective way to remove it. Chemotherapy is advised for curing and controlling cancer if it has not already spread to numerous sections of the body or developed in an inaccessible location.

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