

Cancer Survivorship Late Effects of Lymphoma Treatment

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Long-term and Late Effects of Cancer Treatment

- Long term effects
 - Medical problems which persist for months or years after treatment ends
- Late effects
 - Medical problems that do not develop until years after treatment ends

Long-term Effects

- Relates to complications or side-effects that occurred at the time of lymphoma treatment
- Often improve over time
- An example is nerve damage (peripheral neuropathy) after the chemotherapy drug vincristine

Late Effects

- "Silent" damage at the time of treatment sets up a long term process which ends up in the development of a "new" disease many years later
- An example is a secondary cancer after chemotherapy or radiotherapy

Factors influencing late effects

- The treatment you have: Chemotherapy, radiotherapy or both
 - If chemotherapy, what drugs?
 - If radiotherapy, what to?
- Number of courses of treatment
- Age at the time of treatment
- Pre-existing conditions and other risk factors (eg. Smoking)
- CHANCE

Fine Balance

- When treating cancer, need to balance most effective treatment against side effects and late effects
- Studies on late effects include people who were treated decades ago, so may not be relevant to modern treatment
- Strategies to monitor for late effects should be individualised

Fatigue

- Tiredness and lack of energy most common symptom in cancer patients (reported by 70-90% of patients)
- Often worse in lymphoma patients
- Is caused by both the chemotherapy and the underlying cancer
- Most back to normal within 6 months of finishing chemotherapy, but some people experience chronic fatigue
- May be due to anaemia, but most people experience fatigue separate from the tiredness associated with anaemia

Dealing with fatigue

- Plan your day so that you have time to rest. Take short naps or breaks, rather than one long rest period.
- Save your energy for the most important things. Allow others to do some things for you that you usually do.
- Try easier or shorter versions of activities you enjoy. Take short walks or do light exercise if possible.
- Try activities such as meditation, prayer, yoga, etc.
- Eat as well as you can and drink plenty of fluids. Eat small amounts at a time. Limit the amount of caffeine and alcohol you drink.
- Keep a diary of how you feel each day. This will help you plan your daily activities.

Infertility

- Can be long term or late effect
- If very intensive chemotherapy, radiotherapy or bone marrow transplant infertility may be immediate
- Usually less intensive chemotherapy will cause "subfertility" which becomes a problem with increased age or a subfertile partner
- Can be managed by storing sperm, embryos or eggs (low chance of pregnancy)

Peripheral neuropathy

- Common side effect of treatment with vincristine or vinblastine chemotherapy as well as thalidomide and bortezomib for myeloma
- Usually mild, resolves after several weeks to months
- Occasional people have severe symptoms which don't completely resolve
- Will be worse if another cause of nerve damage present such as diabetes or myeloma

"Chemo Brain"

- Long term effect
- Up to 75% of cancer patients report cognitive problems
- Feel like they're not operating with a clear mind; they feel mentally foggy and seem to have trouble with memory and planning
- Difficult to measure as patients generally score well on cognitive testing and pre-chemotherapy testing usually not done
- Worst when on chemotherapy, improves over time

"Chemo Brain"

- Sometimes unclear whether is due to the cancer, or it's treatment
- Certain scenarios associated with clear cognitive problems such as whole brain radiotherapy and chemically induced menopause
- Research on the subject is young
- Recent studies have shown impaired cognition and differences in brain scanning in chemotherapy treated patients

What can be done?

- Exclude other causes such as depression, poor sleep and side effects of medications (eg. Morphine)
- Exercise your brain (crosswords, etc)
- Develop routines and keep a diary/notebook
- Exercise can help clear thought processes
- Drugs such as anti-depressants and Ritalin have been trialed with benefit, but not currently recommended

Secondary leukaemia and myelodysplasia

- Risk with any chemotherapy, but particularly Etoposide and alkylating agents (Eg. cyclophosphamide, melphalan, ifosfamide)
- Radiotherapy also a risk factor
- Occurs 3 – 10 years following treatment
- Up to 5-10% following Autologous Stem Cell Transplant
- Poor prognosis

Heart disease

- Anthracyclines (eg. Doxorubicin) and cyclophosphamide (high dose) can cause mild heart damage that may not become evident until years later when additional damage occurs
- May cause immediate problems in those with pre-existing heart disease (get heart scan before treatment in those at risk)
- Strict limits on dose
- Radiotherapy to chest can promote coronary heart disease
- What can be done to minimise problems:
 - Manage coronary risk factors (diabetes, hypertension, cholesterol)
 - DO NOT SMOKE

Lung disease

- Lung damage can occur with drugs such as Bleomycin (used in Hodgkins disease)
- Radiotherapy to chest can also damage lungs and increase risk of lung cancer
- Rarely causes symptoms, but lung function is monitored
- Important NOT TO SMOKE to minimise future risk of respiratory failure and cancer

Breast Cancer

- Associated with radiotherapy to chest (mantle), particularly when given to those <30
- Mostly Hodgkin Disease survivors
- Breast cancer risk still high 20-30y later
- Up to a third will get breast cancer
- Regular mammograms
- Dramatic reduction in the use of radiotherapy with current treatments, so future risks for survivors may be small