

CASE IN...

Chemotherapy

Essentials for the GP: A Chemo Case



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Nancy's Case

- Age: 42
- Presents in November with symptoms of cystitis.
- High blood pressure is not well controlled.
- She is receiving adjuvant chemotherapy for breast cancer.



Can Nancy have a flu shot?

Should she cancel her trip to Florida in December?

How do you treat Nancy?

In general, benign infections like cystitis or sinusitis may be treated with oral antibiotics. However, fever with severe neutropenia ($< 0.5 \times 10^9/L$) constitutes an emergency. The patient should be hospitalized and given broad spectrum intravenous antibiotics.¹

Since the absence of neutrophils blunts the inflammatory response and consequent pus formation, a normal chest X-ray does not rule out pneumonia

An infection must always be ruled out in cases of fever. However, other causes must be considered. For example, several drugs can cause fever, including:

- bleomycin,
- high-dose cytarabine and
- immunotherapy agents (rituximab, *etc.*).

Should you vaccinate Nancy?

A patient can be vaccinated while on chemotherapy. The flu shot is especially recommended because of the potential complications of influenza in cancer patients. The vaccine should also be given to patients with debilitating cancer or immunosuppressive hematologic diseases (multiple myeloma, chronic lymphocytic leukemia, *etc.*). Recall, dosage of other vaccines must be given as needed.

However, a vaccine's efficacy might be unpredictable because of the patient's immunosuppression. Try to avoid the period of leucopenia by giving the vaccine the same day as the chemotherapy treatment or a few days before.

Flu shots are recommended for cancer patients.

Other health problems?

Chemotherapy rarely interferes with a patient's usual medication because it is generally administered once every three weeks. Consequently, most currently used drugs are safe.

However, some caution must be taken with oral daily chemotherapy because the main side-effect is cytopenia. This problem can be exacerbated if the patient is also taking medications known for this potential complication (anticonvulsive agents, *etc.*).

Warfarin is frequently used for several indications. Toxicity is possible if a patient is not eating well or if there is liver dysfunction because of metastatic involvement.

Many protocols use steroids, which disrupt diabetes patients.

Finally, calcium supplementation may cause hypercalcemia if the patient has metastatic bone disease.

The basic rule should be to live the most normal life possible.

What about lifestyle?

People on chemotherapy are usually anxious and often “bombarded” with well-meant advice. The basic rule should be to live the most normal life possible.

- Patients can go out, unless they are severely neutropenic.
- Visitors are welcome if they have no symptomatic infections.
- Alcohol is permitted in reasonable quantities.
- It is important to rest as needed, but this will not accelerate hematologic recovery after a treatment.
- Sun exposure is acceptable, but a good sunblock should be applied, as many chemotherapy agents cause photosensitivity.

Trips to foreign countries are problematic because often the patient will be away when the



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neutrophils are at the lowest level. An infection might be dangerous if adequate therapy cannot be given. Also, several insurance companies will not cover fees secondary to chemotherapy complications.

Are there long-term side-effects?

1. Chemotherapy agents are toxic for the gonads. They may induce a precocious menopausal state in women or sterility in men. Menopause is often reversible in individuals younger than 35 and usually permanent after 40.
2. Hormone replacement therapy can help, but there is still a contraindication in breast cancer.² Physicians must be concerned about future osteoporosis as well. Consideration should be given to freeze a young man’s sperm before initiating treatment.
3. Anthracyclines may induce late cardiomyopathy, therefore, the physician must be alert to symptoms of heart failure.
4. Bleomycin may damage lungs. This drug is frequently used in lymphoma treatment. It is essential to discourage smoking after exposure to this medication.
5. Finally, a late, but very serious complication of chemotherapy is acute leukemia. It can happen several years after the treatment. Fortunately, this problem is uncommon.

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References

1. Pizzo, PA: Fever in immunocompromised patients. *N Engl J Med*, 1999; 341(12):893-900.
2. Loprinzi, LL, Barton, DL, Rhodes, D: Management of hot flashes in breast cancer survivors. *Lancet Oncol*, 2001; 2(4):199-204.

Further reading

1. Loescher, LJ, Welch-McCaffrey, D, Leigh, SA, et al: Surviving adult cancers. Part 1: Physiologic effects. *Ann Intern Med*, 1989; 111(5):411-32.