The Story of a Breast Cancer Patient

A GP's Approach

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Mel's case

Mel, a 45-year-old, previously fit woman who owned a clothing store, presented to the family doctor having felt a "thickening in the right breast".

She had regular menstrual periods, but had mastalgia for four to five days before her period. She had a biopsy in the same area eight years ago, which showed benign fibrocystic change. She has a son aged 10. A paternal aunt had breast cancer.

On examination, she has lumpy breasts, with a possible area of thickening under the old scar in the upper, outer quadrant of the right breast.

How would you approach this case?

Read on for a detailed rundown of Mel's case.

Professional involvement of the family doctor with a breast cancer patient can be illustrated using the case history of a patient whose disease trajectory progressed from primary diagnosis to recurrence to terminal care (See Mel's case).

How is breast cancer diagnosed?

Recent studies of general practitioners' practices have suggested that only one patient in 10 presenting with a breast symptom will have a carcinoma. Younger women will tend to have fibroadenoma (a moveable breast "mouse"); women in the 35 to 55 age range will tend to have fibrocystic change. It may be difficult to establish a diagnosis in up to one-third of patients.

History exam

Taking a patient's history is very important in the diagnosis.

Information on previous breast problems should be sought, as should the age at menarche (early menarche has an increased risk of breast cancer). Family history is also essential.

When taking a patient's history, specific questions must be asked. These questions include:

- "How long has the thickening been present?" (this gives an idea of the growth rate of a tumor);
- "Are there any associated symptoms of breast pain?" (as seen in fibrocystic disease);
- "Is there any dimpling?" (typical of scirrhous carcinoma); or
- "Is there any bleeding from the nipple?" (typical of an intraduct papilloma).

What tests should be done?

This patient should have mammography and ultrasound. If these results are negative, she should nevertheless be referred for biopsy. Scars from old biopsies are difficult to assess, but usually do not change after 18 months, and Mel has clearly reported a new thickening in the breast.

What are the risk factors?

Risk factors for developing breast cancer in this case are:

- first baby delivered after 30,
- a paternal aunt with breast cancer, and
- a previous benign breast biopsy.

It is unlikely that she has one of the known hereditary syndromes (which account for < 5% of all cases), but she may have a "familial susceptibility".

Being premenopausal, she has not been on hormone replacement therapy (HRT). In an older woman, this would be a risk factor if HRT had been taken for five years or more.

Mel had been taking the oral contraceptive pill (OCP), but there is no convincing evidence of an increased risk of breast cancer with the OCP.

What do the tests show?

The mammogram reports *"dense breasts, possible oval density extending 2 cm in the upper, outer quadrant of the right breast at site of the previous biopsy with some fine calcifications; could be scarring from old biopsy site; suggest repeat mammogram in six months"*.

A brief symptom review should be done for the case of a patient presenting with stage IV breast cancer and bone metastases.

Physical exam

Physical exam of the breast axillae and supraclavicular regions should be performed with the patients in both the sitting and lying positions.

Mammography and ultrasound are helpful in diagnosis. Screening mammography is now recommended in post-menopausal patients every one to two years, but, at this point, it is difficult to see any advantage in terms of mortality in women screened under the age of 50.

Up to 10% of mammograms will be read as negative in the presence of a clinically detectable breast cancer. Therefore, if a patient or a doctor feels a lump or thickening, it should be biopsied, irrespective of the mammogram or ultrasound report.

The Canadian trial of mammography plus physical exam versus physical exam alone, suggests that regular, skilled exams of the breast are valuable.

Breast self-exam has proved less successful than hoped.

What treatments are available?

Some treatment options are listed in Table 1.

Studies have shown that if treatment decisions are taken by informed patients, the incidence of subsequent anxiety/depression states is significantly lower than if treatments are imposed by the oncologist or surgeon.

What is the GP's role in treating side-effects of therapy?

The family doctor is sometimes involved in supporting a patient who is undergoing chemotherapy. Nausea/vomiting is a common symptom, but the use of dexamethasone and the 5-HT3 blockers has

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Table 1

Some treatment options for breast cancer

- Breast conservation surgery or total mastectomy (often with tamoxifen), which is usually advised for ductal carcinoma in situ alone.
- For invasive breast cancers, breast conservation surgery with radiotherapy gives equivalent survival and distant metastasis-free survival results compared to total mastectomy. This choice should be discussed in full with the patient.
- Chemotherapy is used especially in premenopausal women and those who have a risk factor of lymphovascular invasion.

reduced the incidence of this problem. Prochlorperazine suppositories and nabilone are also useful. If the nausea and vomiting start more than five days from chemotherapy administration, consider other diagnoses (such as infection, other drugs, hypercalcemia, brain metastases, or peptic ulcer).

Febrile neutropenias can occur, and require immediate treatment with antibiotics. If the patient has no symptoms or signs of a site of infection and has a neutrophil count > 500 mL, ciprofloxacin, 750 mg, twice daily, can be prescribed. Intravenous antibiotics will be required for more serious febrile neutropenia.

Systemic therapy with tamoxifen can involve hot flushes, ameliorated with venlafaxine, 37.5 mg, at night. Vaginal bleeding in post-menopausal patients is an indication for immediate endometrial biopsy, as there is a 0.2% annual incidence of endometrial carcinoma. In a small proportion of patients, venous thromboembolism or cerebral thrombosis can also occur as a result of tamoxifen therapy.

Followup schedules should be determined based on each individual patient's case.

Physicians should take the opportunity to educate patients regarding what to look for.

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More on Mel's tests

The ultrasound shows *"an irregular area of mixed, but mainly increased echogenicity compatible with old scarring in the upper, outer quadrant; suggest repeat ultrasound in six months"*.

Despite these reports, the patient is promptly referred to a surgeon who performs a biopsy. The biopsy shows a 2-cm infiltrating duct carcinoma, grade II, with possible lymphovascular invasion, extensive areas of ductal carcinoma in situ (DCIS), and some probable lobular carcinoma in situ. The tumour is hormone-receptor positive.

Although this patient has an invasive breast cancer at biopsy, she also has DCIS, which has a 1% to 2%/year progression rate to an invasive lesion. The mammogram in DCIS often shows branching fine calcifications.

What treatment is best for Mel?

Chemotherapy would be indicated in this patient because of her premenopausal status and the risk factor for lymphovascular invasion. Tamoxifen would be given for five years because of her positive estrogen receptor status. In a post-menopausal women, tamoxifen (or anastrozole) is the main therapy, with chemotherapy added if there is a higher risk of distant disease.

To followup on Mel's case, go to page 60.

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What happended to Mel?

The patient decides to have a mastectomy. She becomes post-menopausal after her adjuvant chemotherapy.

Three years after the initial treatment, she complains of pain in the lower back, unrelated to any recent activities. The X-rays are negative. Her family doctor prescribes non-steroidal anti-inflammatory drugs (NSAIDs).

Over the next few months, the pain gets worse, culminating in severe, acute pain. She goes to the emergency department and the X-ray shows a collapsed second lumbar vertebra. A bone scan shows uptake in the second lumbar spine and a suspicious area in the right sacroiliac region. Because of the single area of abnormality, a bone biopsy is performed, which confirms carcinoma.

What went wrong?

In this patient, a bone scan should have been performed immediately rather than radiographs, which are often negative in early metastatic bone disease.

In assessing a patient with metastatic breast cancer, bone scan, ultrasound of the liver, and chest X-ray, are performed. For sites of recurrence in the chest wall, bone, and pleura, palliative hormone therapy is usually the first approach. For more rapidly progressive disease, palliative chemotherapy may be used.

Now what?

The patient has bone metastases. She has palliative radiotherapy to the lumbar spine and starts aromatase inhibitors and bisphosphonates. Her pain medication consists of long-acting morphine, with breakthrough short-acting morphine and NSAIDs. She uses physical aids for back support and transcutaneous nerve stimulation. Symptom control is carried out with management of constipation, nausea, and depression. She attends support groups.

Had the patient not already been rendered post-menopausal by chemotherapy, palliative therapy might have included surgical oophorectomy, a radiation menopause, or luteinizing hormone-releasing hormone (LHRH) agonists, such as goserelin.

Any new symptom should be investigated aggressively.

Psychosocial aspects often come to the fore during the immediate followup period. The physician should support, encourage, and spend time with the patient. D_x

References available—contact *The Canadian Jounal of Diagnosis* at **diagnosis@sta.ca**.

Will Mel's health improve?

After 14 months, Mel's pain gets worse, especially in the hips. X-rays showed new osteolytic lesions in the pelvis. Liver function tests are abnormal and ultrasound of the liver shows multiple hypoechoic lesions.

In this situation, biopsy is not required and palliative chemotherapy is administered. These treatment programs should be fitted to meet the needs of the patient.

Combination regimens are suitable to fit younger patients who need a response for morale purposes. In older women, or those who are frightened of chemotherapy or more fragile, sequential, single-agent regimens are most appropriate. The dosage of the drugs should be titrated to achieve a minimum of side-effects with a maximum of efficacy. Patient support groups are useful in this setting.

After a six-month response, Mel's disease progresses with ascites, bone pain, and dyspnea. The chemotherapy is stopped. She starts palliative care and symptom control.

Here, the principles of pain control with narcotics and NSAIDs are paramount, using palliative radiotherapy for specific areas of pain. Chest wall ulceration can be managed with anaerobic antibacterial therapy, such as metronidazole gel and daily dressing changes. Fatigue management may be helped with the use of subcutaneous erythropoietin. Anxiety/depression should be treated, and symptoms, such as constipation and nausea, should be actively managed.