



# Aftermath

The patient was a 68-year-old woman who had been diagnosed as having ovarian cancer. At surgery, the tumour was removed along with the adjacent lymph nodes and her omentum tissue; this is the fold of peritoneum that connects the stomach with other organs. Histological examination of the tissues suggested that the ovarian cancer had not spread. However, because of the “aggressive” appearance of the tumour cells, a course of chemotherapy was implemented. The patient came through both her surgery and chemo without incident. However, she failed to regain her original body weight – she was 130 pounds before she developed her symptoms and 100 pounds at the time of surgery. Accordingly, a C.T. scan was performed in order to detect any evidence of metastatic growth – spread of the cancer to other parts of her body.

The C.T. scan showed no evidence of metastasis; however, the pleural membrane around the lower margin of the left lung showed some thickening and the lung in this region showed a diffuse increase in density. The pleural findings were attributed to scarring, results of a childhood infection. Bronchial washings were used to collect cells from the lower region of the left lung and these were referred for bacteriological examination. A pure growth of *Staph. aureus* was obtained (culture for tubercle bacilli was negative).

The patient was prescribed Cloxipen® for 12 days. A chest x-ray performed 2 weeks after the antibiotic treatment showed that the diffuse area in the lung was clearing. Shortly following the antibiotic treatment, the patient developed an acute bacterial infection of her bladder. A urine sample yielded a pure culture of *E. coli* and a 10 day course of Norfloxacin® was prescribed.

### Discussion

Ovarian cancer patients have a poor prognosis but in this case it appears that there was no spread of the cancer; it was contained within the ovary. Weight loss in a patient who is known to have, or had, cancer is of concern. Chemotherapy carries with it side-effects. These range from hair loss and nausea to what is sometimes called “chemobrain” where the patient develops difficulty with memory and concentration. The drugs that are used are potentially toxic to many types of cells but especially those that are fast growing. These cytotoxic drugs can suppress the immune system; something that both the patient and attending physician(s) must keep in mind.

Some of the questions that arise from this case include:

- If the immune system was suppressed because of chemotherapy, how long does it take to recover?
- Were the lung infection, and possibly the bladder infection, a result of a suppressed immune system? The staph infection was not due to the so-called MRSA type, hence the reason it was treated with, and responded to cloxacillin.
- Could the infection have been acquired while she was undergoing chemotherapy at the hospital?

All of these questions were considered by various consultants but no definitive conclusions were made.

### Regarding the choice of antibiotics

Cloxacillin (called Cloxapen® in the United States) is one of several different kinds of penicillin. The choice depends on the type of bacteria and the nature of the disease. For instance, penicillin G may be used for gas gangrene, Amoxicillin and penicillin V for Lyme disease, etc. The respiratoryist who treated this patient for the staph infection of the lung selected Cloxacillin. This was based on sensitivity testing and the consultant’s experience with this type of respiratory infection. Norfloxacin® belongs to a class of antibiotics called fluoroquinolones. The development of these drugs has evolved so that there are at least 4 different generations, each having their own application. Norfloxacin® is highly effective against Gram-negative bacteria such as *E. coli*. JLB ❖

**Photo: Target Hemolysis, *Staphylococcus aureus* bacteria growing on blood agar showing typical beta hemolytic target hemolysis.**

Courtesy of Heather Pickard, MLT, Ottawa Hospital Microbiology Lab.