

Incidental malignant findings after investigation of simple ovarian cyst

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Abstract: This case report describes the initial investigation of a simple ovarian cyst in a postmenopausal woman, the incidental findings of primary and secondary endometrial carcinoma, and the treatment protocol followed [1-9].

Keywords: adenocarcinoma, metastases, progesterone therapy, lung.

Case report

A female patient, age 63, presented for annual gynaecological examination complaining of intermittent, right-sided lower abdominal pain and night sweats of one month duration. She had a 25-year history of mitral valve disease and familial hypercholesterolaemia which was well controlled on anticoagulant and beta-blocker maintenance therapy; she had been receiving transdermal oestrogen replacement therapy for four years. She had a maternal history of endometrial malignancy, which information had not been documented previously.

On routine physical and pelvic ultrasound examination performed by the gynaecologist, a solitary, fluid-filled cyst measuring 8cm x 6cm was visualised, situated adjacent to the right ovary. No free fluid or other abnormality in the pelvis was detected.

A total hysterectomy and bilateral salpingo-oophorectomy was advised. Routine procedure of pre-operative chest radiographs was followed. The chest radiographs demonstrated the known prosthetic mitral valve and sternal wires, and also demonstrated pathology in the right upper lobe, medially, reported as being suggestive of bronchopneumonia (Figure 1).



Figure 1: Pathology right hilar region.

At hysterectomy the encapsulated cyst and routine specimens were sent for cytological and histological examination. Pelvic organs and local lymph nodes inspected intra-operatively were macroscopically negative for malignancy. The ovarian cyst was reported as being benign. The uterine tissue sample was positive for malignancy, a primary endometrial adenocarcinoma, with less than 20% invasion into the myometrium.

The cancer was staged using the surgical FIGO classification [1], as stage 1, and no further treatment or investigation was indicated; the patient was referred to an oncologist for a routine two-month follow up.

At two months post-hysterectomy the patient was symptom-free. Work-up investigations done prior to evaluation by the oncologist showed abnormal results: blood tumour markers, although non-specific, were

positive for cancer. The chest radiograph demonstrated an increase in size of the lesion in the right upper lobe, when compared with the radiographs taken two months earlier, and was reported as a soft-tissue, obstructive mass requiring further investigation by computed tomography scan. This was performed using pre and post-contrast technique. The report suggested an invasive primary neoplastic mass with no evidence of disease in the organs of the upper abdomen. A diagnostic bronchoscopy was performed and bronchial washings and specimens for cytology were taken. The results were inconclusive.

The patient was then referred to a cardiothoracic surgeon who performed a diagnostic thoracotomy. Frozen section samples of lung tissue and lymph nodes were sent for histology. The lung tissue and one of the four lymph node samples were positive for metastatic endometrial carcinoma.

The oncologist prescribed a radical course of six chemotherapy treatments which was followed by a six week course of radical radiotherapy. The patient was then assessed at regular 3-monthly intervals. She remained symptom-free for one year until she developed an irritating cough and night sweats. Investigations showed metastatic lesions throughout both lungs, with no disease in the liver. A new course of chemotherapy, with palliative intent, was prescribed to which the patient responded well; the lung lesions reappeared again within 3 months (Figure 2).



Figure 2: Metastatic recurrences at 3 months post-chemotherapy.

Another course of chemotherapy was started but not completed. The new chemotherapy drug was poorly tolerated by the patient who by then had suffered significant physical deterioration and her quality of life had become poor. She declined further chemotherapy and was treated symptomatically, eventually needing continuous oxygen therapy for dyspnoea and morphine for bone pain due to spread of disease into her ribs.

She died three years and seven months after initial diagnosis; four months after stopping all treatment.

Discussion

Ovarian cyst is the second most common palpable pelvic mass. It is not considered suspicious in premenopausal women, but this is not the case with postmenopausal women [2]. It can develop under the influence of elevated levels of oestrogen. Surgery is the treatment of choice and clinical correlation is always advised [3].

The small area of possible pneumonia demonstrated pre-operatively, with a statistical 10-15% chance of being benign [4] was not investigated pre-operatively as adverse effects from possible rupture of the potentially malignant cyst, with seeding into the abdominal cavity, was the greater risk. Early detection of lung cancer is sometimes an incidental finding on chest radiograph when a patient is being investigated for another medical condition [2].

The greatest risk for this patient in undergoing any invasive procedure was due to the necessary manipulation of her anti-coagulant therapy. Thinner blood, with International Normalisation Ratio of between 2.4 and 4.2 was her optimum norm, due to her cardiac condition; this had to be reduced to be in the region of 1 before an invasive procedure could take place. Thicker blood for this patient carried an increased risk both of stroke and of clotting at her prosthetic mitral valve. Thoracotomy, as a biopsy procedure, offers a greater risk than most biopsy procedures.

The pathology report positive for endometrial malignancy was unexpected; no evidence of malignancy had been seen macroscopically during surgery. Ovarian pathology, not endometrial pathology, had been suspected.

Although bronchoscopy as a diagnostic procedure has a fairly low success rate, with sensitivity of biopsy, cytobrushings and washings being 0.74, 0.59 and 0.48 respectively [5] it is usually done before thoracotomy, being the lesser invasive of the two procedures. In this case, sampling was difficult due to narrowing and blockage of the bronchial lumen, caused by extrinsic pressure exerted by the mass. Thoracotomy and fine-needle aspiration were both possible diagnostic procedures which could have been carried out as the next step in diagnosis [5].

Despite being more costly and invasive, the cardiothoracic surgeon performed a thoracotomy since a lobectomy or pneumonectomy might have been indicated depending on the frozen section results during the procedure and the chest would already be open. It was also necessary to view the lesion and local lymph nodes directly. Surgical resection would have been carried out if the disease had been localized to the lung [6]. The positive pericardial lymph node ruled out the possibility of lobectomy or pneumonectomy, as surgery is not indicated unless the mass is localized.

The oncologist decided to treat the lung lesion as a second primary carcinoma, although the frozen section done during thoracotomy had shown evidence of metastatic endometrial carcinoma, because no evidence of invasion outside the chest had been found and the patient was in good physical condition; both being major factors in the decision to treat with radical intent. Subsequent recurrences of tumour growth indicated the change to terminal disease; chemotherapy was then given as palliation [7] to prolong life.

The maternal history of endometrial carcinoma in this patient is significant. An hereditary predisposition to malignancy, coupled with a six-fold [8] additional risk of the same malignancy by the transdermal application of oestrogen-only hormone replacement therapy greatly increased the risk of developing a malignancy. Unopposed oestrogen has a highly carcinogenic effect [8] in hormone-dependant tissue. In contrast, progesterone therapy has successfully treated endometrial carcinoma in pre-menopausal women [9].

Concluding remarks

By following standard procedure, this patient was able to receive treatment for the incidental malignant findings far earlier than would otherwise have been expected. The author is of the opinion that this case report highlights the importance of detailed history-taking.

Acknowledgements

This article is written in support of extensive research done on the benefits of natural progesterone therapy carried out by the late Dr John Lee.

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MEDIA RELEASE • 18 January 2007

HPCSA ANNOUNCES AMNESTY ON PENALTY RESTORATION FEES

In a move to further boost health care capacity in South Africa, the Health Professions Council of South Africa (HPCSA) has agreed to a once-off waiver of penalties for those practitioners, both local and abroad, who failed to pay their annual registration fees on time, or who allowed their registration to lapse without informing Council.

The amnesty period will start on 1 February 2007 and expire on 30 April 2007. It applies to those practitioners - living locally and abroad - whose registrations have lapsed and who have not practiced for up to two years, as well as those practitioners who have been resident and practicing in other countries.

"We are offering this blanket waiver of penalties to encourage health professionals to be restored back onto the register, particularly those working abroad who have expressed a desire to come back to South Africa, but who have found the restoration penalties very high," said Adv. Mkhize. He added that some professionals who left South Africa during the apartheid era had been unable to regularize their registration issues before leaving.

"This is a further effort by the HPCSA to boost human resource capacity and so broaden access to health care for our country's population," said Mkhize. "We do, however, expect all health care practitioners who take advantage of this amnesty period to render professional services to any public sector institution of their choice. We expect them to work for 100 hours in service to public health within six months of their restoration. This may include working in the public service or with health non-governmental organizations. They will be required to submit evidence of their public health service within six months, failing which they will need to pay full restoration fees applicable at that time," said the Registrar.

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