



Editorial

The cost of surveillance following treatment of ovarian cancer

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Patients who have been treated for ovarian cancer are routinely followed up in most developed countries either by their gynaecological or non-surgical oncologist. Many organisations including the NCCN have produced guidelines on follow-up [1] but there has only been one randomised trial that has investigated this topic [2], leading a recent Cochrane review to state that randomised controlled trials are needed to compare different types of follow up on the outcomes of survival, quality of life, cost and psychological effects [3]. The paper by Armstrong et al in this issue [4] stimulates us to think about the cost of surveillance and shows that performing routine CT scans as part of follow-up dramatically increases the costs, but in only 7.5% of recurrences was it the only modality to detect recurrence.

Retrospective analysis and uncertainty as to why patients had a median of two imaging studies before recurrence, are weaknesses of the paper. The NCCN guidelines which the authors state they were following, advises imaging only when clinically indicated. Either the Cleveland oncologists were routinely performing imaging contrary to NCCN guidance or these scans were prompted by symptoms, signs or rising CA125. If the later then the potential cost savings in the USA of omitting a routine annual CT scan during follow-up will be less than the \$25,500,000 indicated by the authors, as many patients will have a clinically indicated scan to confirm or exclude recurrence.

Perhaps more importantly we should consider what the reasons are for follow-up of patients who have completed first line therapy of ovarian cancer. They include giving reassurance and counselling, dealing with the toxicity of therapy, for data collection if in a clinical trial, and to help patients plan their lives if relapse is detected early. The primary aim should be to detect disease that if treated early can extend survival or improve quality of life. Most follow-up guidelines are written on the presumption that earlier detection of recurrence benefits patients. A patient questionnaire of over 500 German patients with ovarian cancer showed that 95.8% believed that the main objective for surveillance was to improve survival [5]. Although some retrospective studies have suggested that earlier detection of recurrence can improve survival, the only randomised trial performed failed to show any benefit. In that MRC OV05/EORTC 55955 trial, patients randomised to doctors being informed that CA125 levels had become elevated started chemotherapy for relapse at a median of 4.8 months earlier than those whose CA125 levels remained blinded [2]. However there was no difference in survival and quality of life was better in the delayed group.

If one believes that earlier diagnosis of relapse does not improve survival then follow-up could be made much cheaper by referring patients back to their primary care physician, after giving them details of symp-

toms that might suggest relapse which should prompt a rapid new consultation. Alternatively they could be referred to nurse led follow-up using either a structured telephone interview or clinic attendance [6].

Many gynaecological oncologists are concerned that if patients are not closely monitored they might miss the chance of resecting recurrent disease. They base this view on data from retrospective studies which show that in over 50% of selected patients it is possible to achieve optimal cytoreduction and that this results in a significant prolongation of survival in these women [7–9]. It is currently not possible to say whether this survival prolongation is due to the surgery or due to case selection of biologically better prognostic patients. Hopefully the three randomised trials investigating the role of surgery on survival in recurrent ovarian cancer, GOG 213, DESKTOP 3 and SOCceR, will show whether surgery improves survival.

Those that believe in the potential benefit of surgery are likely to want to do routine CA125 tests and at least an annual CT scan as retrospective studies suggest a higher chance of optimal surgery if the relapse is detected when the patient is still asymptomatic [10]. This is contradicted by an Italian study which found no survival difference between asymptomatic and symptomatic patients at the time of relapse, and therefore, the earlier diagnosis resulting from a scheduled follow-up protocol did not seem to improve the clinical outcome [11].

One way of reducing costs would be to adapt the follow-up for different clinical scenarios. For example patients with residual disease and those within 12 months of completing chemotherapy are less likely to be candidates for surgery at relapse, so do not need CT scans. Another way of reducing costs is to offer visits every 4 rather than 2 or 3 months during the first 2 years of follow-up. Patients with early stage disease who have a low risk of relapse and are followed the longest are the group where cost savings would be greatest from omitting scans and less frequent visits.

The current NCCN guidelines suggest that physicians discuss the pros and cons of CA125 monitoring with their patients. Unless this discussion includes acceptance that recurrent ovarian cancer can be treated but only very rarely cured and that no randomised trials have yet shown that close surveillance improves survival, patients will continue to want intense expensive follow-up.

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