Evaluating Suspected Breast Cancer at a One-Stop Clinic: Is This a Better Model?

Dey P, Bundred N, Gibbs A, et al. Costs and benefits of a one stop clinic compared with a dedicated breast clinic: randomised controlled trial. BMJ 2002;324:507–11.

Study Overview

Objective. To determine the cost to England's National Health Service (NHS) and the impact on anxiety of a one-stop clinic for assessing women with suspected primary breast cancer.

Design. Prospective randomized controlled trial. Analysis was by intent-to-treat.

Setting and participants. Between April 1995 and November 1996, women aged 35 years or older referred for suspected breast cancer (new breast nodules) were randomized to evaluation at a one-stop clinic or dedicated breast clinic at a teaching hospital in Manchester, England. One-stop clinics were defined as settings where imaging and fine needle aspiration (FNA) for cytology with same-day reporting could be obtained at the initial visit. At these clinics, women had mammography with or without ultrasonography, evaluation by a surgeon, and FNA, if appropriate. Cytology was reviewed by a pathologist and surgeons then reassessed patients and discussed management. A dedicated clinic was defined as the "usual" setting where a woman was assessed by a surgeon only. If further intervention was planned, women returned the following week to discuss results. Patients were randomized before consent was obtained. Those allocated to a one-stop clinic were informed that they could opt for the usual clinic. Information outlining the study was sent to all women. Additionally, a researcher discussed the trial with women in both groups. Data were collected from case notes at diagnosis and 12 months later and from the cancer registry to identify cases of breast cancer diagnosed elsewhere. Women completed questionnaires at baseline, 24 hours after the first visit, 3 weeks after diagnosis, and 3 months after diagnosis. After initial assessment, all further visits were to a dedicated follow-up clinic, irrespective of where initial assessment took place.

Main outcome measures. Outcome measures were reduction in mean anxiety from baseline at 24 hours after the first visit and at 3 weeks and 3 months after diagnosis and mean cost per patient. Psychological distress was measured using the state scale of the State-Trait Anxiety Inventory and the anxiety subscale of the Hospital Anxiety Depression Scale. Cost analysis was based on costs of staff, clinic overhead, and diagnostic evaluation. All participants contributed to the economic evaluation, but only those completing questionnaires contributed to the anxiety analysis. Analysis of covariance was used to measure changes in mean anxiety score from baseline.

Main results. Of 670 women initially randomized, 478 ultimately were deemed eligible and agreed to participate. Women who declined to participate were more likely to have been allocated to the dedicated clinic (15% versus 8%; $P = 0.02$), to have cancer (30% versus 13%; $P = 0.002$), and to be older (56 versus 49 years old; $P < 0.0001$). 267 patients (55.9%) were randomized to a one-stop clinic and 221 (44.1%) to a dedicated breast clinic. Baseline characteristics were similar. Women allocated to one-stop clinics were more likely to have mammography (97.8% versus 83.4%), ultrasonography (88.4% versus 17.5%) at diagnosis, or to be given a diagnosis at the first visit (91% versus 49.3%). The median number of days between first evaluation and diagnosis was 0 versus 8 ($P < 0.0001$) for one-stop and dedicated breast clinics, respectively. Compared with women who attended the dedicated clinic, patients attending the one-stop clinic also were less anxious 24 hours after the visit, but not at 3 weeks (41.8% versus 48.4%) or 3 months (42.7% versus 47.5%) after diagnosis. In both groups, mean anxiety scores at all time points were lower than at baseline. The additional cost of one-stop clinics to the NHS of £32 (approximately $47) per patient was largely explained by greater cytopathological and radiological staff costs.

Conclusion. One-stop clinics may not be justified in terms of a reduction in short-term anxiety.

Commentary

Discovering a new breast lump is anxiety-provoking for a woman. Most lumps are self-discovered on monthly examinations or incidentally, while fewer are palpated by primary physicians. In women younger than 40 years, approximately one third will be confirmed by surgical and pathological

evaluation [1]. Ideally, the diagnostic evaluation of a new breast mass is rapid, accurate, and safe. Delay in diagnosis can increase a woman's anxiety; however, evidence remains somewhat mixed as to whether brief delays in diagnosis significantly affect overall survival. Still, popular belief is that earlier diagnosis and treatment is beneficial, making this an area of increasing litigation [2].

One-stop or "full-service" clinics have been designed to expedite diagnosis for women referred with new breast lumps. The theoretical advantage over more standard, so-called "dedicated," clinics is the ability to combine the expertise of multiple disciplines—medical and surgical oncology, radiology, and pathology—at a single visit. Delays in diagnosis can be reduced, often being limited to a single clinic visit. In England, the assumption has been that this additionally is a more cost-effective approach to care.

Dey et al strive to assess the differences in these clinical settings, specifically examining levels of anxiety and cost. The merit of this analysis is the prospective randomized design. Women were fully informed, albeit after randomization, and almost 500 participants were included in the analysis. The study indeed showed that one-stop clinics significantly reduced delays in making a diagnosis—91% on the first visit compared with 49% in a dedicated clinic. Moreover, this reduction was achieved without having to subject women to more procedures (FNA or biopsies). Another significant point is that anxiety appeared to be lessened in the first 24 hours after the initial visit from baseline, more so than in a dedicated clinic setting. However, any relative advantages in anxiety reduction for a one-stop setting were lost at 3 weeks and 3 months after diagnosis. Moreover, there is a suggestion that this all comes at a real, if minimal, increase in cost.

The study is somewhat weakened by the fact that consent was obtained after randomization. Women who agreed to participate after allocation to a particular clinic setting may have introduced a selection bias. Additionally, because all patients were allocated to dedicated breast clinics in follow-up, regardless of initial randomization, it is not surprising that later assessments of anxiety were no different between cohorts. Finally, Dey et al's conclusion that one-stop clinics may not be justified because of the minimal benefit in anxiety reduction and increase in cost should be tempered. There may be other benefits that one-stop clinics provide, such as system error reduction, compliance with care, or improvements in quality of life, all of which should be studied.

Applications for Clinical Practice

The diagnostic evaluation after discovery of a new breast mass should be pursued in an efficient, accurate, and safe manner. One-stop clinic models offer a multidisciplinary approach to care that can expedite the process. However, whether this translates into better care for women with suspected breast cancer remains to be seen.

–Review by David R. Spigel, MD

References

1. Morrow M, Wong S, Venta L. The evaluation of breast masses in women younger than forty years of age. Surgery 1998; 124:634–40.
2. Jenner DC, Middleton A, Webb WM, et al. In-hospital delay in the diagnosis of breast cancer. Br J Surg 2000;87:914–9.