

One-stop diagnosis for symptomatic breast disease

Gerald P H Gui FRCS FRCSEd
Surgical Research Fellow

William H Allum BSc MD FRCS
Consultant Surgeon

Nicholas M Perry FRCS FRCR
Consultant Radiologist

Clive A Wells MRCPath
Consultant Pathologist

O Marigold Curling MB BS
Consultant Pathologist

Alison McLean FRCR
Consultant Radiologist

Rachel Oommen MRCPath
Consultant Pathologist

Robert Carpenter BDS MS FRCS
Consultant Surgeon

The Breast Unit, St Bartholomew's Hospital, London

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A consultant-led one-stop diagnostic service has been available at a busy symptomatic breast clinic each week at St Bartholomew's Hospital for 18 months. Women can be investigated appropriately using mammography, ultrasonography and cytology with immediate reporting. The aim is to achieve a diagnosis and management plan for each patient at the initial outpatient visit. A prospective audit of four consecutive clinics was undertaken to assess the impact of this service on clinical practice. Fifty patients out of 134 new and 386 follow-up clinic attenders had one-stop investigations. As a result of immediate reporting, 48 (96%) patients had a management decision made at the first outpatient visit, 9 (18%) were offered surgery, and 18 (36%) were discharged with a benign diagnosis and no dominant mass. Four symptomatic cancers were detected and evaluated on a one-stop basis, constituting 8% of the workload of this clinic. The mean wait from designated appointment until surgical consultation was 37.7 min (range -68-171 min) and that for investigation until subsequent clinical review was 56.9 min (range -4-191 min). Thirty-six (72%) one-stop patients had a total wait of less than 2 h and 95% were seen in under 3 h. It is felt that the one-stop clinic allows optimum patient management, minimises anxiety associated with symptomatic breast disease, and maximises utilisation of hospital outpatient resources.

The St Bartholomew's Hospital Breast Unit provides a specialist service to the City and Hackney and South Islington Health District and is also the assessment centre for the Central and East London Breast Screening Service. For 18 months, a one-stop diagnostic facility has been available at the symptomatic breast clinic each week. The aim is to achieve a definitive management decision for each patient within the same morning of their consultation. Purchasers demand an efficient hospital outpatient service. A survey of general practitioners in the City and Hackney Health District lists the early provision of management plans, consultation by medical staff of at least registrar grade and above and acceptable waiting times as some of the important features of outpatient organisation (1). This report describes the audit of process and outcome of the one-stop clinic.

Patients and methods

Data were prospectively compiled on all new attenders and any follow-up patients who utilised the one-stop service over four consecutive weeks in May 1993. Women for breast screening under the national programme were seen in a separate clinic and are therefore not included in this study. Surgical and nursing staff at the clinic consisted of two consultants, a senior registrar, three registrars, a specialist nurse counsellor, one sister and two staff nurses. Two of the three registrars were incorporated from the Homerton Hospital within the district to help run the clinic. Patients can be investigated appropriately

with one or more of mammography, ultrasonography and fine needle aspiration cytology. Two consultant radiologists and a consultant cytologist provided immediate reporting of investigations. Diff Quik (Baxter Dade AG, Switzerland) was used to stain air-dried smears of aspirates for immediate reporting. Wet fixed smears were taken for subsequent staining and review with the Papanicolaou technique. If necessary, ultrasound-guided aspiration was available in the one-stop clinic.

Mammograms were graded as follows: R1 (normal/benign), R2 (benign discrete lesion), R3 (indeterminate), R4 (suspicious of malignancy) and R5 (malignant on radiological grounds) (2). Cytology was graded on a similar scale: C1 (inadequate aspirate), C2 (benign), C3 (atypia probably benign), C4 (suspicious of malignancy) and C5 (malignant) (3). All investigations were subsequently reviewed and a final report issued. Investigations were considered to be definitive if the immediate and final reports were the same or further collaboration was not required to make the immediate diagnosis. Patients with radiologically or cytologically proven benign or malignant discrete lesions had their diagnosis and treatment options discussed. Immediate counselling was provided by the specialist nurse who also offered on-going support as required. Women over 30 years of age with benign lumps were counselled towards excision, while younger women were treated conservatively and kept under regular follow-up. A date for definitive surgery for breast cancer cases was given unless staging investigations were indicated, in which case patients were reviewed with these results within 1 week.

In principle, patients were selected for one-stop investigation on the basis of clinical priorities to confirm a clinical diagnosis in order that a definitive decision might be made. In practice, patients seen in the latter half of the clinic were limited by time for investigation, reporting and recall at the same visit. Whenever possible, such patients were recalled with the results of their tests within 1 week.

Results

A total of 134 new and 386 follow-up patients attended the clinic. Consultants saw 92 (68.7%) new referrals, while the senior registrar and three registrars saw 27 (20.1%) and 15 (11.2%) new cases, respectively. The majority of follow-up patients were seen by registrars and consultant opinions sought only if difficult management problems arose. In all, 50 patients (46 new and 4 follow-up) were offered immediate investigations. These patients had a mean age of 41.3 years (range 19–79 years). The one-stop investigations requested and the results are shown in Table I and Table II, respectively. The mean time for each examination until the completion of reporting were: ultrasound 11.1 min (range 5–35 min), mammography 31.9 min (range 8–65 min) and cytology 14.8 min (range 3–45 min). Each of the 23 ultrasound and 27 mammographic examinations, and 24 (92%) of the 26 cytology results, were considered definitive. Of the two provisional cytological reports, one was in a patient with

Table I. Investigations requested on a one-stop basis in 50 women attending a symptomatic breast clinic over a period of 1 month

Investigations	No. of patients (%)
Ultrasound alone	9 (18)
Mammogram alone	14 (28)
Cytology alone	3 (6)
Ultrasound and mammography	1 (2)
Ultrasound and cytology	11 (22)
Mammogram and cytology	10 (20)
All three investigations	2 (4)

Table II. Results of one-stop investigations

Investigation (n)	Results
Mammogram (27)	R1 = 17, R2 = 7, R3 = 1*, R4 = 1, R5 = 1
Ultrasound† (23)	Normal = 4, benign changes = 11, fibroadenoma = 4, cyst = 4
Cytology (26)	C1 = 3‡, C2 = 18, C3 = 1, C4 = 1§, C5 = 3

* Cyst diagnosed on fine needle aspiration

† Includes diagnostic investigations only

‡ One case of nipple discharge (pathology = duct papilloma); two cases of benign breast disease diagnosed on multimodality assessment.

§ Cytological grade upgraded from C4 to C5 after review of Papanicolaou stain. All patients graded 4 or 5 were correctly identified to have cancer.

recurrent breast cancer where the cytologist wanted to compare specimens with the original primary, and the other was in a man with a breast lump who had a diagnosis of C4 upgraded to C5 on review after Papanicolaou staining.

The final diagnosis in each of the 50 one-stop patients is shown in Table III. Eight patients with symptomatic cancers were diagnosed during the period of this audit (seven new patients and one recurrence in a follow-up

Table III. Comparison of clinical and final diagnoses in 50 one-stop patients

Diagnosis	Number of patients (%) with:	
	Clinical diagnosis	Final diagnosis
Fibroadenoma	5 (10)	5 (10)
Benign breast disease	30 (60)	29 (58)
Cyst	5 (10)	6 (12)
Cancer	5 (10)	4 (8)
Duct: (a) discharge	2 (4)	—
(b) papilloma	—	1 (2)
(c) ectasia	—	1 (2)
Chest wall pain	2 (4)	2 (4)
Lymph node	1 (2)	1 (2)
Normal breasts	—	1 (2)
Total	50 (100)	50 (100)

patient), of which four were evaluated on a one-stop basis. Three patients with breast cancer were unable to be investigated on a one-stop basis due to time constraints and one patient requested delayed tests. Malignant disease thus formed 8% of the workload of the one-stop clinic while the spectrum of benign disease formed 84%. The remaining 8% of one-stop patients had normal breasts.

A management decision was reached on 48/50 (96%) patients. Nine patients were offered surgery: five local excision of benign lumps, one breast-conserving procedure and one mastectomy (both with axillary dissection) for cancer, and two duct excisions for benign nipple discharge. Two elderly patients with cancer were treated primarily with tamoxifen. In all, 18 (36%) one-stop patients were discharged at the first attendance with the immediate results of their investigations: 17 with benign breast disease (and no dominant mass) and one with musculoskeletal chest wall pain. The one-stop facility was not offered to 88 new patients due either to time constraints or the absence of clinical indication: 63 were investigated electively and, of these, 16 were offered surgery (13 for benign and three for malignant disease) and 28 patients were subsequently discharged at the second outpatient visit.

The average time lapse between general practitioner referral (as taken by the date of the letter) and first attendance in outpatients was 26 days (range 1–56 days). The mean wait from designated appointment to surgical consultation was 37.7 min (range –68–171 min, while that for being sent for investigations until surgical review was 56.9 min (range 16–142 min). There were 19 (38%) patients seen by medical students before being seen by the surgeon; the mean clerking took 21.9 min (range 10–35 min) and was considered part of the waiting time as this was independent of patient assessment and decision making. In all, 36 (72%) one-stop patients had a total wait of less than 2 h and 95% were seen in under 3 h.

Discussion

The delivery of health care is undergoing significant change. General practitioners and their patients demand a high-quality consultant-led service with effective communication (1). The establishment of a one-stop diagnostic clinic for patients with breast disease was considered the best way of achieving these targets. The principal advantage is that a diagnosis and management plan can be determined at the initial outpatient attendance, thus obviating the need for a second review appointment. In this study 96% of patients using the one-stop service had a definitive management plan made at their first visit. Anxiety associated with symptomatic breast disease (4) can be minimised by an early diagnosis and appropriate skilled counselling. The one-stop clinic allows immediate consideration of the surgical options and timing of operations. Patients with benign breast disease with no dominant lump may safely be discharged back to their general practitioners. In this study, 63 of the 88 new referrals not investigated on a one-stop basis were

subsequently reviewed at a second clinic appointment with their results. This represents a group of women that could have benefit from one-stop investigation, but resources did not permit this at the time of this audit.

Immediate reporting of cytology of breast lumps referred from a symptomatic clinic has been shown to be a reliable procedure (5–7). However, it is important that one-stop clinics offer mammography, ultrasonography and fine needle aspiration cytology to allow accurate diagnosis without recourse to surgical biopsy. Deficiencies in each of these modes of diagnosis are recognised, but when all modalities are taken into account the overall diagnostic accuracy rate is very high (7–9). Despite a high proportion of cases correctly diagnosed on clinical grounds alone in this study (Table III), specialised investigations are of vital importance to confirm the diagnosis (not least for medicolegal purposes) and also to allow the planning of surgery as a one-stage procedure from outpatients. The availability of equipment, technical and specialist staff at the clinic facilitates the easy interaction between modalities of assessment. Inadequate aspiration specimens are instantly detected and repeated, if necessary with the aid of imaging. A diagnostic problem may be resolved by discussion between surgeon, radiologist and cytologist while the patient is still at the clinic. Imaging may be necessary to confirm or refute a discrete lesion within a nodular breast. In some cases, despite a discrete palpable lump, radiological and cytological evidence of malignancy may be conflicting. This can usually be resolved by further aspiration with ultrasound guidance. The availability of the mammogram report at the one-stop clinic also allows the detection of unsuspected multifocality in breast cancer that can influence the choice between a breast-conserving procedure or a mastectomy. As needle aspiration may distort interpretation of the subsequent mammogram (10), immediate reporting of the films enables fine needle aspiration cytology of suspicious areas to be performed at the same attendance.

Waiting times to see a surgeon at the one-stop clinic in this study had a mean of 37.7 min, but this included a medical student clerking in 19 women. If these student clerkings were excluded from the calculations, the mean waiting time would have been just under 30 min. Despite the best intentions, targets set by the Patients Charter (11) may not always be met. Women in general found waiting times at the clinic acceptable, with the knowledge that the gains were early diagnosis and open discussion of treatment options. It is essential that patients are kept fully informed of expected waiting times and reasons for any delays should they arise.

Introduction of the one-stop service required reorganisation of existing staff and resources and this audit demonstrates that a high consultant input was successfully achieved by all specialties. Following our study, several improvements were implemented. The interval between referral and the patient's first attendance at the clinic was considered unacceptable and extra places for new patients have been set aside. General practitioners are able to telephone for an urgent appointment if

indicated, and women will normally be seen at the next clinic. Women reviewed after operations are now seen at a separate breast clinic, to allow more time for discussion and counselling, simultaneously freeing space in the symptomatic clinic for new patients. A medical oncologist attends this review clinic to partake in management decisions on adjuvant therapy. A senior and junior registrar belonging to one of the surgical firms but previously occupied performing other duties now also attend the clinic. This enables more new patients to be seen earlier in the day and overcomes the problem of women being sent 'too late' for one-stop investigations. A selective follow-up protocol might enable more time to be spent on new patients. However, current policy on our Breast Unit is to monitor all patients treated for breast cancer for 10 years; this accounts for the majority of patients attending for review. Patients are also encouraged to be accompanied by a friend or relative during consultation and counselling. The impact of the one-stop clinic on patient anxiety levels, as well as the appropriateness of general practitioner referrals to the one-stop clinic, are part of an impending study.

We feel that the one-stop clinic is a step in the right direction to meet the demands of the new-look health service. Although labour intensive, we believe the benefits gained by patients to be of paramount importance. Multidisciplinary clinics have been shown to be cost-effective (12,13), though savings from lower clinic recall rates and the evaluation of time taken off work by patients are difficult to quantify. Our aim is to extend the one-stop service to all women with symptomatic breast problems. High quality standards have been achieved in screening and it is now time that similar levels are reached for symptomatic women.

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