Gynaecological day surgery at a Hong Kong hospital

TC Pun

A retrospective review was made of patients who underwent day surgery at a gynaecological day practice in Hong Kong from October 1993 to June 1994. The first three months of practice, which involved 326 patients, was analysed separately. During the initial period, 49.5% of patients who had gynaecological operations were managed as day patients. The rates for patients with prolonged hospital stay and cancelled operations were 15.6% and 3.0%, respectively. In the subsequent period, the incidence of prolonged hospital stay decreased to 7.4%, while the cancellation rate was similar, at 3.6%. Patients with a prolonged hospital stay were less likely to be Chinese, were more likely to have other medical problems, to be of American Society of Anesthesiologists Class II, and to have procedures that involved opening of the peritoneal cavity. Non-medical problems were an important reason for prolonged hospital stay (37.4%). The stay rate could be reduced by provision of a separate operating facility and by improved counselling and selection of patients.

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Introduction

Day surgery is defined as appropriate surgery performed on a day basis in dedicated day units.[1] Since day surgery is cost-effective, the savings that result can be released to improve surgical facilities and increase the number of patients treated. Day surgery is also welcomed by patients, because of the minimal disruption to their work or domestic lives.

In 1985, the Royal College of Surgeons estimated that up to 50% of post-operative patients need not stay in hospital overnight. The period during which anaesthesia is given is considered an important factor and operations likely to take more than one hour are considered unsuitable for day surgery. Hence, many intermediate and minor gynaecological procedures can be performed as day procedures. Moreover, gynaecological patients are usually young and healthy and often have a commitment either to their work or family. These factors make day surgery an ideal choice for some patients. On the other hand, it has been reported that the concept of day surgery may not be acceptable to some patients. A 1984 study reported that 30.6% of patients would have preferred to be admitted to hospital overnight after having gynaecological outpatient laparoscopy.[2]

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The Department of Obstetrics and Gynaecology of the University of Hong Kong runs a clinical service that serves as a tertiary referral centre for the western part of Hong Kong Island. The population served is mainly Chinese. One subgroup of non-Chinese is the Vietnamese refugees, who are at present detained in closed camps in remote areas. As a result, this group of patients cannot be discharged on the same day. The clinical service is provided through two hospitals, Queen Mary Hospital and Tsan Yuk Hospital. During the study period, many of the minor and intermediate gynaecological procedures were performed at the Tsan Yuk Hospital, while all major operations were performed at the Queen Mary Hospital.

The Day Surgery Service commenced at Tsan Yuk Hospital in October 1993. The following operative procedures were performed: dilatation and curettage, suction evacuation, simple vulval operations, cone biopsy, diagnostic laparoscopy, and mini-laparotomy. All patients who needed any of the above procedures were assessed by a gynaecologist in the out-patient clinic by questionnaire (Fig 1) and the operations were usually performed within two to four weeks. Patients were given written

Have you had any anaesthetics in the past?
Have you had any problems with any anaesthetics?
Have you any blood relatives with anaesthetic problems?
Are you taking any medications, drugs or tablets? What?
Have you had any Aspirin in the last 2 weeks?
Have you any allergies?
Have you had any problems with you heart or high blood pressure?
Do you get shortness of breath or chest pain after exercising or climbing stairs?
Do you have heartburn?
Are you able to lie flat with one pillow?
Have you had trouble with breathing or taken medicine for a breathing problem?
Do you smoke? How much?
Do you have a cough or produce phlegm?
Do you have loose teeth, caps, or dentures?
Do you have any neck or jaw stiffness?
Have you had any convulsions, fits, or blackouts?
Have you had any psychiatric treatment?
Have you had jaundice, hepatitis, or liver disease?
Do you drink alcohol? How much?
Have you had a history of bleeding tendency?
Do you have any kidney disease?
Do you have diabetes?
Have you had any other serious illness?
Do you have any physical disability?
Do you have any hearing problem?
Could you be pregnant?
Do you have good vision in your ( ) eye?

Fig 1. Day care anaesthesia patient questionnaire

information and instructions on pre-operative preparation and post-operative care. They were admitted to a dedicated day ward in the early morning of the day of the operation, where they were reassessed by both the gynaecological staff and the anaesthesiologist. The patients were assessed by the same personnel again before discharge. No modifications were made to the patient selection criteria, types of operative procedures, pre-operative assessment procedures, or other administrative policy for the duration of the study period.

All day procedures were performed in the same operating theatre where emergency Caesarean sections were performed. The day list was interrupted when necessary and if the planned procedures could not be performed in the morning, the patients had to stay overnight. This is a retrospective study of the Day Surgery Service provided at Tsan Yuk Hospital, with particular attention to the reasons for prolonged hospital stay and procedure cancellation.

Subjects and methods

From October to December 1993, 658 patients underwent elective gynaecological operations in the Department of Obstetrics and Gynaecology of the University of Hong Kong. Of these, 326 (49.5%) were managed as day patients. Most patients (275/326) were discharged on the same day, but 51 (15.6%) had a prolonged hospital stay. In 10 patients (3%), the planned procedures were cancelled. From January to June 1994, 537 patients had day surgery and 40 (7.4%) had a prolonged hospital stay. Twenty patients (3.6%) had their planned procedures cancelled.

The case records of the initial 275 patients were retrospectively reviewed. Demographic data including the patient's ethnic origin, age, and occupation were collected. Body weight, any medical problems, classification of physical status according to the American Society of Anesthesiologists (ASA), pre-operative and post-operative diagnoses, operations previously performed, and intra-operative problems/complications were also recorded.

The case records of patients with a prolonged hospital stay or a cancellation of the planned procedure in the same period were similarly reviewed. To increase the sample size and to compare treatment outcome in the two periods, the case records of patients with a prolonged hospital stay or a cancellation in the subsequent six months (from January to June 1994) were also reviewed. In these two groups, the reasons for a prolonged hospital stay or a cancellation were also recorded. Chi-square tests were used to compare the data where appropriate.

Results

The principal diagnoses of the 326 patients who were managed as day patients are summarised in Table 1. The principal procedures performed are summarised in Table 2 and the percentages of patients requiring a prolonged hospital stay are shown. Most of the procedures performed (83.4%) were

Table 1. Principal diagnoses of day patients

Diagnosis	No. (%)
Termination of pregnancy	203 (62.3)
Menstrual disturbance	31 (9.5)
Sterilisation	31 (9.5)
Medical condition requiring diagnostic laparoscopy	23 (7.1)
Post-menstrual bleeding/discharge	19 (5.8)
Other vulval/vaginal conditions	19 (5.8)
Total	**326**

Table 2. Principal procedures performed and the rate of prolonged hospital stay during the study period

Procedure	No. (%)	Prolonged stay (%)
Suction evacuation	201 (61.7)	21 (10.4)
Dilatation & curettage	51 (15.6)	8 (15.7)
Diagnostic laparoscopy	23 (7.1)	5 (21.7)
Other vulval/vaginal procedure	20 (6.1)	6 (30.0)
Tubal ligation (minilaparotomy)	19 (5.8)	6 (31.6)
Laparoscopic sterilisation	11 (3.4)	4 (36.4)
Other	1 (0.3)	1 (100)
Total	**326**	**51 (15.6)**

vulval/vaginal/intrauterine operations. The 'other' procedure was an ovarian cystectomy performed on a patient in whom an ovarian cyst was found incidentally.

The relationship between ethnic origin, types of principal procedures, presence of medical problems, ASA classification, and length of hospital stay are shown in Table 3. Those patients with a prolonged hospital stay between January and June 1994, were also included in the analysis. Significantly more non-Chinese patients, those with procedures involving entry into the peritoneal cavity, patients with medical problems, and ASA Class II patients required a prolonged hospital stay. The effects of body weight and age on hospital stay are illustrated in Figures 2 and 3. The percentage distributions of body weight and age were very similar for those patients with or without a prolonged hospital stay. The relationship between occupation and hospital stay is shown in Figure 4. A prolonged hospital stay was more common in housewives and domestic helpers but was less common in students and those with full time jobs.

The reasons for a prolonged hospital stay are outlined in Table 4. Procedure-related medical problems were most common and were grouped into operative complications/difficulties (16) or post-

Table 3. Parameters that affected duration of hospital stay

	Discharged on the same day	Prolonged hospital stay	P value
Ethnic origin:			P<0.025
Chinese	245	72	
non-Chinese	30	19	
Principal procedures involved the peritoneal cavity:			P<0.001
being entered	38	37	
not entered	237	54	
Other medical problems:			P<0.025
present	16	13	
absent	259	78	
ASA* classification:†			P<0.05
I	209	65	
II	24	16	

*ASA American Society of Anesthesiologists

†Only 314 patients with documented ASA classification were included

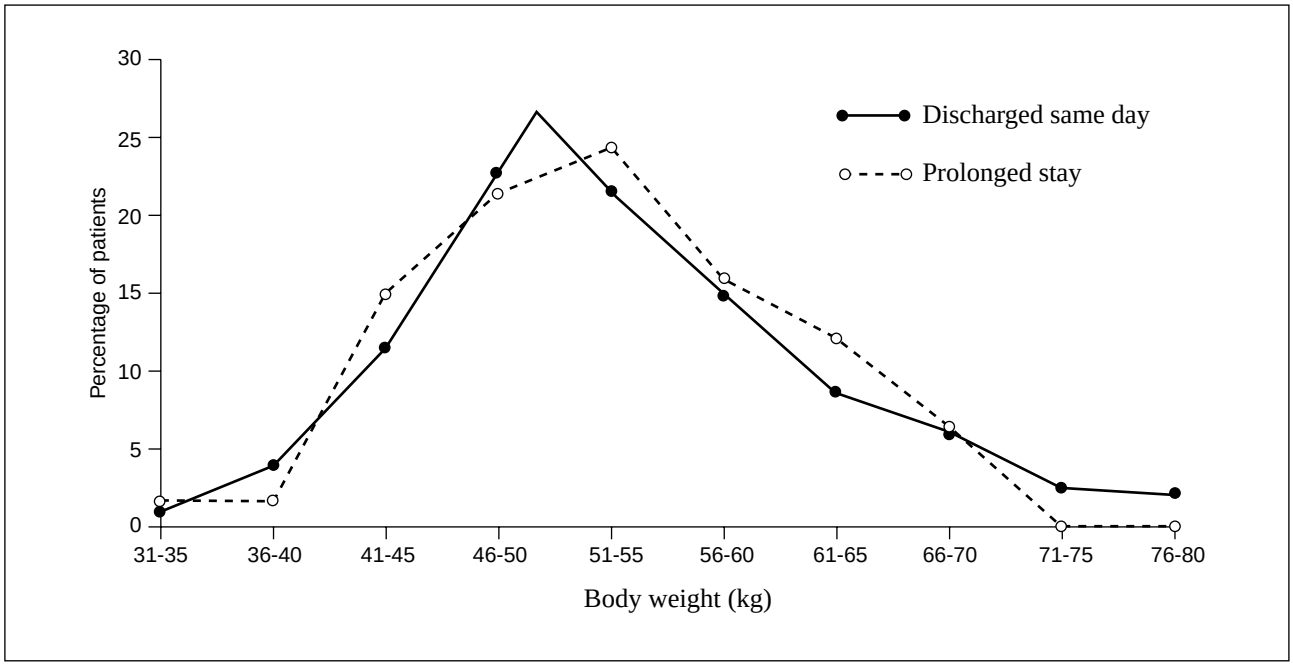

Fig 2. The relationship between body weight and hospital stay

operative problems (25). Post-operative problems included wound pain (8), dizziness (8), fever (5), and others (4). Non-medical problems were the second most important category and included delayed operations (17), Vietnamese refugees (6), patient requests (8), living far away from the hospital (2), and communication problems (1). All delayed operations were due to displacement by emergency Caesarean sections.

The reasons for a prolonged hospital stay were also analysed according to the procedures involved (Fig 5). The most important causes in those undergoing procedures not involving entry into the peritoneal cavity were non-medical problems (49.3%). The most important causes in those undergoing procedures involving entry into the peritoneal cavity were post-operative problems (54.1%). In the latter group, wound pain accounted for one third of morbidity. Dizziness was an equally common post-operative problem.

Thirty patients had their planned procedures cancelled after admission. In 14 patients, the cancellations

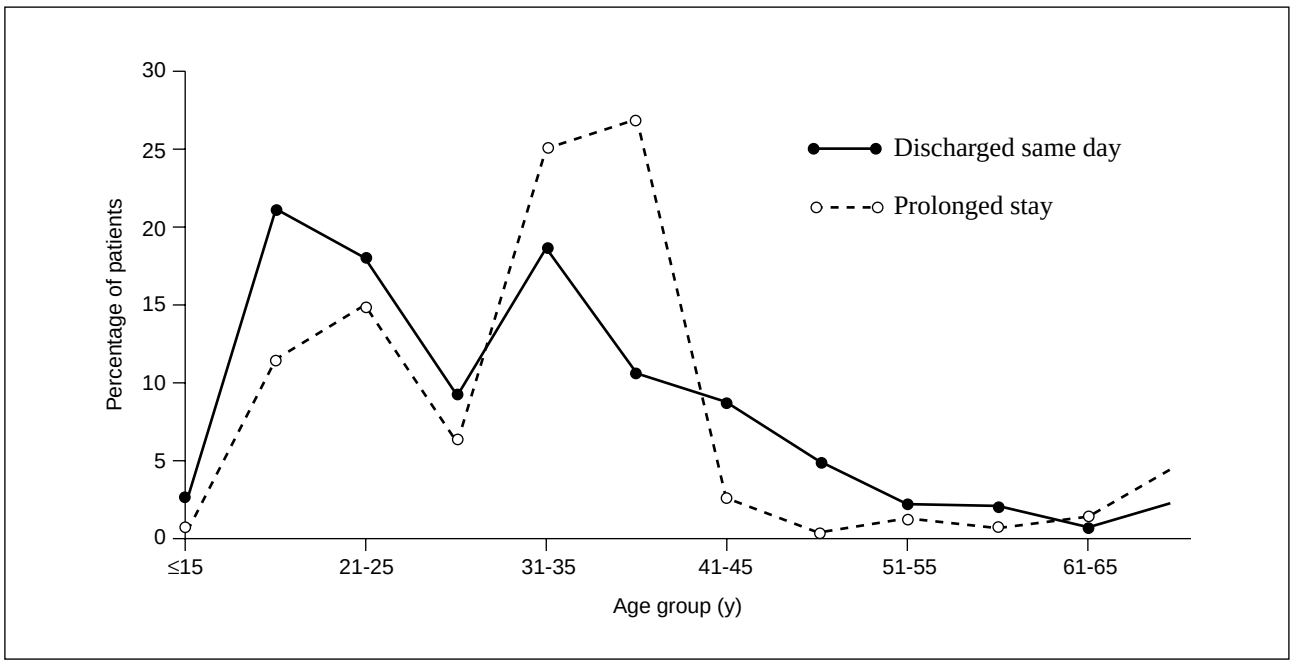

Fig 3. The relationship between age and hospital stay

Table 4. Reasons for a prolonged hospital stay

Complication	No. (%)
Procedure-related medical problem	41 (45.1)
Non-medical problem	34 (37.4)
Non-procedure-related medical problem	11 (12.1)
Unknown	5 (0.4)
Total	**91**

were related to assessment problems, either because of previously undetected medical problems (8), or a changed diagnosis after admission (6). The cancellations were attributed to patient counselling/preparation in 15. Reasons included unprotected intercourse before subfertility investigation (6), incomplete investigation (3), patient's change of mind (3), and food taken before the planned procedure (3). In one patient, the reason was not documented.

Discussion

At least 50% of all gynaecological operations performed at the Department of Obstetrics and Gynaecology, University of Hong Kong, were performed as day surgical procedures. This is in good agreement with the estimate by the Royal College of Surgeons.[1] The range of procedures performed was also similar to those that have been recommended by various authorities.[1,3]

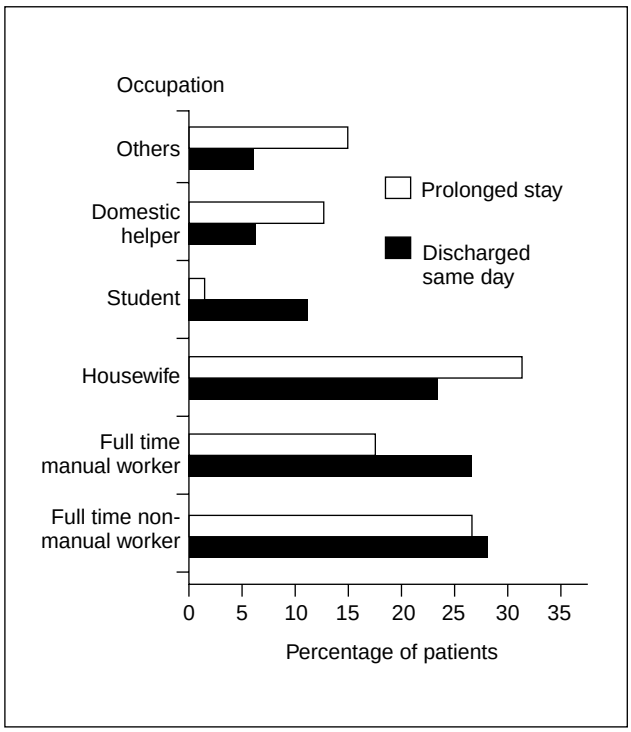

Fig 4. The relationship between occupation and hospital stay

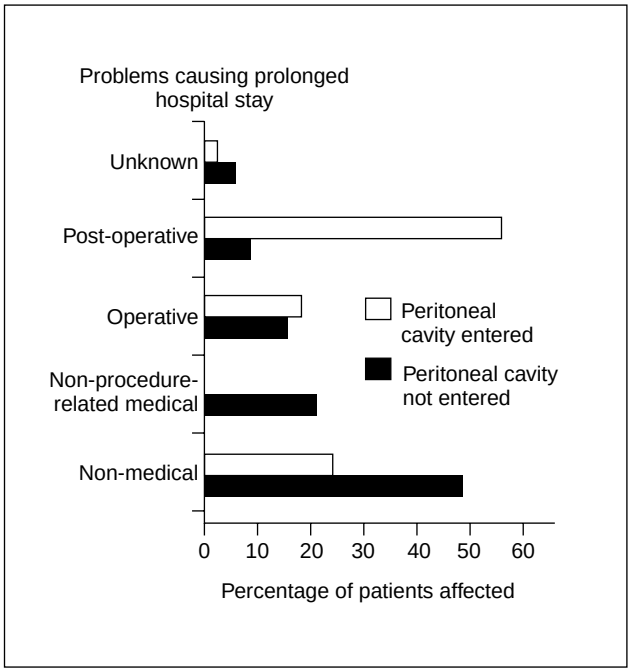

Fig 5. The reasons for a prolonged hospital stay after procedures with or without entry of the peritoneal cavity

According to Johnson and Jarrett,[4] the average admission rate to wards following treatment in day surgical units is about 1%. The rate tends to be higher in gynaecological surgery, especially when laparoscopic procedures are included. In one report, the rate was 4.8%.[5] However, the rates of prolonged hospital stay in our study were still much higher—being 15.6%. This can only be partly explained by the sharing of the operating theatre with the obstetric service (17/91, 18.7%) as non-medical problems accounted for more of those who had a prolonged hospital stay (34/91, 37.4%). The importance of non-medical problems is confirmed by the significant relationship between a prolonged hospital stay with both ethnic origin and occupation. Hence, the social situation and the acceptability of day surgery to the local population are important factors in determining the duration of hospital stay. In some patients, discharge from hospital on the same day may be against their wishes as they may have more rest in the hospital. Other patients may not be psychologically prepared to be discharged from hospital on the same day of the operation—as illustrated by eight patients who simply requested to stay overnight with no specific reason given. However, this situation can be improved, perhaps by better selection or counselling of patients, as

the rate of prolonged hospital stay was reduced to less than half (from 15.6% to 7.4%) in the second period from January to June, 1994.

As far as the nature of the operation is concerned, those procedures involving the opening of the peritoneal cavity are more likely to result in a prolonged hospital stay. This group of patients merits more counselling. Improved management of post-operative pain may also decrease the rate of prolonged hospital stay.

Age and body weight were not important factors. A possible explanation is that extremes in either parameter in the study patients were uncommon.

The cancellation rate was 3% during the study period. Most of these were due either to problems of assessment or to problems with counselling/preparing patients. Theoretically, this should be able to be improved easily, but unfortunately, little improvement was observed in the second period. Reassessment at a pre-admission clinic may reduce the incidence of cancellation but may not be very helpful in our setting, as the planned operations were performed within two to four weeks of the initial clinic visit. An extra visit to our clinic within such a short period may not be acceptable to patients.

Conclusion

At least half of those undergoing gynaecological operations can have these performed as day procedures. Prolonged hospital stay was more common in our patients than has been described in most other studies. The rate could be reduced by the provision of a separate operating facility and by the improved counselling/selection of patients. The latter is especially important for patients having operations that involve entry into the peritoneal cavity. For some patients, the idea of day surgery is unacceptable, and they should not be enrolled in the day surgery programme.

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