

Day Case Thyroid Surgery: A Concept not too far!

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Citation

P Garg, S Dalal, A Jain, Nityasha. *Day Case Thyroid Surgery: A Concept not too far!*. The Internet Journal of Surgery. 2007 Volume 15 Number 1.

Abstract

A progressive decline in length of hospital stay for many surgical procedures like herniorrhaphy, haemorrhoidectomy, appendicectomy, cholecystectomy and mastectomy has occurred and thyroidectomy is no exception. In current clinical practice, the concept of outpatient surgery could apply to thyroidectomy. At the international level, this was started long ago and was found successful and applicable with proper selection of cases. The present study was conducted on 29 patients of benign thyroid diseases to evaluate the scenario of day case surgery through a safe protocol in our set-up. The results of the study revealed that day case surgery is feasible in most of the cases of benign thyroid swellings, if assessed and selected in proper way preoperatively.

INTRODUCTION

Day case surgery is the current trend in surgical practice. Continued hospitalisation for postoperative management till stitch removal used to be the trend for a long time in the past. With increasing population and thereby increasing patient load, reduction in availability of beds, low financial resources and long surgical waiting lists, the concept of "short hospital stay" came into the limelight which is well accepted with almost the same or even better results. ¹ New trends and improvements in the health care system allow to choose short hospital stay even for major surgical operations. Improvement in anaesthesia and pain control, minimally invasive surgery and changing attitude of patients to recovery after surgery have all contributed towards the success of this concept.

As the thyroid gland is anatomically accessible, its removal is not physiologically disabling, making surgery safer and so the concept of outpatient surgery could apply to thyroidectomy. There are few studies in western literature which suggest that by using specific selection criteria, thyroid lobectomies and subtotal thyroidectomies can be performed safely in an ambulatory surgery setting without increase in morbidity and mortality. ² This study has been planned to find out whether this concept can be taken up at all in this part of the country, looking at the usual facilities available in our hospitals and literacy level of our patients.

METHODS

This prospective study comprised consecutive euthyroid

patients with benign pathologies like solitary thyroid nodule and multinodular goitre attending the surgical outdoor department of Pt. B. D. Sharma PGIMS, Rohtak. A minimum of 25 patients constituted the study material but ultimately 29 patients were channeled into the study. A detailed history including presenting symptoms of hyper/hypothyroidism was taken. Detailed physical examination of patients consisting of neck examination and systemic examination was carried out along with indirect laryngoscopy. Specific investigations were carried out like T₃, T₄, TSH, plain X-ray of the neck and FNAC of thyroid swellings along with general investigations for preanaesthetic evaluation like routine haematological investigations with chest X-ray and ECG. Patients having any associated medical illness like diabetes mellitus, liver, cardiac, or renal disease were excluded from the study.

Worked-up patients were admitted through the surgical outdoor department because of the prevailing policy of preanaesthetic assessment on the evening before the day of surgery. They were sent home after anaesthetic review and were called back with necessary instructions in the morning of day of surgery at 7 a.m. All patients received prophylactic antibiotics at the time of induction of anaesthesia and the thyroid was explored by Kocher's incision. Lobectomy or nodulectomy for solitary thyroid nodules and Hartley-Dunhill procedure or subtotal thyroidectomy for multinodular goitre was carried out. A drain was used as per need.

All patients except those requiring a drain for more than 24 hours and hence unwilling to go and those who developed postoperative complications were discharged. The patients' satisfaction level was assessed through a visual analogue score, on a scale of 1-10, where 1 is not satisfied at all and 10 being highly satisfied. All patients were advised to have follow-up at one week, one month and three months to monitor serum calcium and serum T₃-, T₄- and TSH-levels and to detect any complication. The data thus collected was evaluated and analyzed.

RESULTS

Clinical presentation of thyroid diseases showed a wide variation of age ranging from 16-62 years (Table I). The maximum number of patients was in the age group of 31-40 years. Females (25 cases) outnumbered males (4 cases) by a significant margin and F:M ratio was 6.25:1. In our series, two main clinical patterns of presentation were observed, i.e. solitary thyroid nodule (STN) with 18 patients and multinodular goitre (MNG) with 11 patients. Three cytological patterns were observed in the study and it was observed that colloid goitre had maximum incidence (82.76%) followed by adenomatous goitre (13.79%) and chronic lymphocytic thyroiditis (3.45%) (Table I). After surgery, the specimens were subjected to histopathological examination which also revealed various patterns. Colloid goitre was most common (69.97%) followed by adenomatous goitre (27.59%) and thyroiditis (3.45%).

Figure 1

Table 1: Patient Demographics, Clinical and Cytological Diagnosis

Total No. of Patients	29	
Gender		
Male	4	
Female	25	
Age		
10-20 years	2	(6.90%)
21-30 years	7	(24.14%)
31-40 years	13	(44.83%)
41-50 years	4	(13.7%)
51-60 years	2	(6.9%)
>60 years	1	(3.45%)
Clinical Diagnosis		
STN	18	(62.07%)
MNG	11	(37.93%)
Cytological Diagnosis		
Colloid Goitre	24	(82.76%)
Adenomatous Goitre	4	(13.79%)
Chronic Lymphocytic thyroiditis	1	(3.45%)

All patients of the present study had euthyroid status. The majority of the patients underwent lobectomy (13), followed by nodulectomy (6), subtotal thyroidectomy (3) and Hartley-Dunhill operation (2) (Table II).

Figure 2

Table 2: Spectrum of Surgery, Patient Satisfaction level and Follow-up Response

Total No. of Patients	29	
Surgical Procedure		
Lobectomy R - 14	18	(62.07%)
L - 04		
Nodulectomy	6	(20.69%)
Hartley-Dunhill	2	(6.89%)
Subtotal thyroidectomy	3	(10.34%)
Patient Satisfaction level	16 (patients discharged within 24 hours)	
Highly satisfied with Score 10	13	(81.25%)
Marginally satisfied with Score 9	03	(18.75%)
Follow-up Response		
After 1 week	29	(100%)
After 1 month	25	(86.21%)
After 3 months	09	(31.03%)

Although haemostasis is always an aim in any type of surgery, a drain is required sometimes and the majority of

our cases (24) required a drain while only 5 cases could be closed without drain. Out of 24 patients, it was removed after 24 hours in 11 patients and after 48 hours and 72 hours in the remaining 8 and 5 patients, respectively, when the drain output decreased to <15 cc/day. Before being discharged, all patients were examined for any evidence of early complications (i.e. within 24 hours) like respiratory difficulty, recurrent laryngeal nerve palsy and postoperative haematoma etc. None of the patients in our series had any of these early or late complications like tetany or wound infection.

Assessment of patient satisfaction level was applied only to patients who were discharged within 24 hours. Only 16 of our study cases could avail the facility of day case surgery depending on various parameters; while 13 patients were highly satisfied with surgery and early discharge, only 3 patients had a marginally lower satisfaction level (Table II). The patients responded very well to the first week follow-up advice but the number fell rapidly for the next follow-ups (Table II). None of the patients in follow-up had any delayed complication like wound infection, tetany etc. and the serum calcium and serum thyroid hormone levels were found to be within normal range in all patients at 3rd follow-up.

8

DISCUSSION

In the series of refinements in thyroid surgery, the latest has been the consideration of the concept of day case surgery for at least some of the thyroid disorders. ³ At the international level, this concept started long back and was found successful with proper selection of cases. ⁴ The prospects of advances like reduced cost, high patient satisfaction, reduced waiting list for elective surgery, inpatient beds freed for major and emergency surgery, reduced thromboembolism and hospital acquired infections, minimal disruption to patient life, early return to work and normal activities were really impressive and eventually it gradually encroached a large number of surgical procedures including thyroid surgery. ^{4,5} The present study was conducted to evaluate the feasibility of day case surgery in benign thyroid diseases in our set-up.

The present study comprised 29 cases of benign thyroid diseases. The age of the patients was ranging from 16-62 years with the maximum number in the age group of 31-40 years. Female to male ratio in our study was 6.25:1. Middle age and female preponderance of thyroid diseases has also been reported in other studies. In one study of 334

consecutive cases of thyroid swellings carried out by Bapat et al., there was a female preponderance of 4.31:1. ⁶ In another study by Lumach, there again was a female dominance of 4.21:1. ⁷

In our study of 29 cases, thyroid swellings were clinically divided into STN (62.07%) and MNG (37.93%). In the study of 334 consecutive cases by Bapat et al., swellings were differentiated into uninodular (39.52%), multinodular (47.31%) and diffuse (13.17%). FNAC and histopathology in our study of 29 cases revealed three patterns: colloid goitre, adenomatous goitre and thyroiditis. The commonest presentation was colloid goitre which was consistent with the findings in the literature. ⁸

Surgical options included in our study were lobectomy (62.07%), nodulectomy (20.69%), Hartley-Dunhill procedure (6.89%) and subtotal thyroidectomy (10.34%). Lobectomy was the minimum surgical procedure attempted for thyroid swellings unless it was an encapsulated, small, defined nodule for which nodulectomy was done. In the Hartley-Dunhill procedure, a thyroid strip on the opposite side of swelling was left while this was done bilaterally in subtotal thyroidectomy. As per literature Hartley-Dunhill procedure is preferred over bilateral subtotal thyroidectomy because the former requires reentering only one side of the neck should recurrence require reoperation. ⁹

None of our patients developed complications like haematoma, hoarseness of voice (recurrent laryngeal nerve palsy), tetany etc. The table anaesthetists were requested to see the vocal cords at the time of anaesthesia reversal and in all cases the vocal cords were found to be in normal paramedian position. The reported incidence of permanent recurrent laryngeal nerve palsy varies from 0-14% and of permanent hypoparathyroidism from 1.2-11%. ¹⁰ The majority of patients (81.25%) were highly satisfied with surgery, postoperative period and early discharge. Few of the patients (18.75%) had marginally lower satisfaction level possibly because of hospital environment and/or paramedical dealing pattern. The patients responded very well (100%) to the first week follow-up advice possibly because of concomitant stitch removal, but the number fell rapidly for the next follow-ups. Illiteracy and/or poor communication might be one of the factors, although enough time was spent for communicating the advices in detail.

It is needless to mention that the first and foremost requirement of application of such a concept with regard to thyroid surgery is patient's education and effective

communication. In a developing country like India where a major chunk of population still resides in rural areas and with the literacy rate being low, it is very difficult to make patients agree to the concept of short hospital stay. But the call has been given and an attempt has been made to convey that in selected patients it is safe to perform day case surgery in benign thyroid diseases in our set-up as well.¹¹

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