

Short-stay thyroidectomy : trends in postoperative hospital stay

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Short-stay surgery in an established form of patient management in developed countries. There is little published on the subject from the developing world. This paper describes the personal experience of short-stay thyroidectomy over a period of ten years. It is a retrospective study based on the work carried out in the Department Surgery, University Teaching Hospital, Lusaka.

Seventy-nine consecutive thyroidectomy patients were included. There were 65 female and 14 male patients with an average of 38 years. General anaesthesia was used in 60 patients and 19 had local analgesia. Operations included subtotal thyroidectomy (thirty-two), lobectomy (twenty-eight), total thyroidectomy (five), near total thyroidectomy (three) and eleven other operations. Malignancy was diagnosed in ten patients. Minor post-operative complications occurred in 16 patients and airway related difficulties were noted in 11, seven of whom had temporary voice change. Four tracheostomies were performed. Two were permanent ones before thyroidectomy and two were temporary ones post-operatively. There was no record of iatrogenic permanent recurrent laryngeal nerve palsy. Four patients had thyrotoxicosis, one of whom developed a thyroid crisis. One patient developed a hypocalcaemic crisis. There was no operative mortality. Seventy-seven patients were followed-up and there were three readmissions, two with

terminal cancer and one with hypocalcaemic crises. The length of stay varied between 3.8 days early in the series to 1.3 days in 1999. Short-stay thyroidectomy offers advantages and is safe where expertise is available. Early review following hospital discharge is recommended.

Introduction

Short-stay surgery, day-stay surgery and ambulatory surgery recently received much attention and are increasingly being practiced in the developed world^{1,2,3}. Coincident with this trend, hospital bed provision is dropping for most of the world's population, and a similar pattern has been noted in the developing world^{2,4}. However the information available from the developing countries on the subject of short stay surgery is limited^{2,5}. The aim of this retrospective study was to obtain information on post-operative length of stay in a group of patient who had undergone thyroid surgery.

Patients and methods

The University Teaching Hospital is a 2000 bed tertiary referral centre located in the capital city of Lusaka. It serves a population of two million people and until recently was the only hospital in the capital undertaking major surgery such as thyroidectomy. There are five general surgical units in the hospital's Department of Surgery. This study was based on the work conducted in one of these general surgical units. Log books were used to collect data on

patients who underwent thyroidectomy over a decade. Seventy-nine consecutive patients were included in this study. These patients were all operated upon by the author between June 1989 and December 1999.

Results

The patients ranged in age from 12-64 years, with an average of 38 years. There were 65 female and 14 male patients, a ratio of over 4:1. Surgery was performed under general anaesthesia in 60 patients and local analgesia in 19⁶; representing a ratio of 3:1. The type of operation performed can be seen in Table 1. Retrosternal goitre was diagnosed in four patients. Fine needle aspiration cytology was not performed during the study period. Tissue diagnosis was obtained from excised biopsy specimens and was available in 77 patients. Benign lesions such as "colloid", "nodular", or "adenomatous" goitres were reported upon in 67 patients and malignancy was detected in ten others. These included follicular (six), papillary (two), and anaplastic (one) carcinomas and a sarcoma. Tissue diagnosis was not available in two patients.

TABLE 1 Thyroidectomy

Type of operation	Number
Subtotal	32
Lobectomy	28
Cyst, adenoma, pyramid	9
Total thyroidectomy	5
Near total	3
Excision adenoma	2
TOTAL	79

Minor post-operative complications occurred in 16 patients and included wound infection, seroma formation, hypertrophic scar and bleeding. None required re-operation. Complications of a potentially more serious nature were seen in two patients; one developed a thyroid crisis and the other a hypocalcaemic crisis. Airway related difficulties were recorded in 11 patients⁷. Seven of them developed temporary voice change with full recovery on follow-

up. Of the remaining four patients, two required permanent emergency preoperative tracheostomies for airway obstruction, and two others with large goitres needed post-operative tracheostomy for tracheomalacia and traction neuropraxia respectively⁸. Both these patients were extubated successfully in due course. There was no record of iatrogenic permanent recurrent laryngeal nerve palsy during the study⁸. Four patients had thyrotoxicosis. Of these, two had exophthalmos, a third patient had no co-existing disease, and the fourth had hypertension and cardiomegaly. This patient developed a thyroid crisis postoperatively but recovered after a stormy course in the Intensive Care Unit. There was no mortality in this series, mortality being defined as death occurring within one month of surgery.

The trend in the length of stay in days following surgery can be seen in Table 2.

TABLE 2 Average postoperative stay

Year	Number of Patients	Days
1989	4	3.8
1990	6	4.1
1991	6	7.0*
1992	5	3.4
1993	1	4.0
1994	5	2.8
1995	11	2.3
1996	7	2.3
1997	14	2.3
1998	11	1.9
1999	9	1.3

The patient with anaplastic carcinoma and a tracheostomy was in hospital for 21 days in 1991. If she is excluded the figure drops to 4.2 days.

Follow-up was possible in 77 out of 79 patients. Of the remaining two patients, one was discharged from hospital without being given a review date and the second patient with benign disease failed to keep her appointment in the outpatient clinic.

Three patients were re-admitted. A wheelchair-bound patient with severe osteoporosis, bilateral femoral fractures, and recovering from quadriplegia was readmitted. He had undergone total parathyroidectomy and thyroidectomy and had been allowed home two days later. He had subsequently required a number of readmissions from treatment of hypocalcaemic crises. His immediate post-operative calcium requirements had been difficult to predict. It is likely he had the 'hungry bone syndrome' as described from the Indian subcontinent⁹. We had no means of confirming this diagnosis with our patient. He continues to receive large doses of oral calcium and Vitamin D daily. The two other patients who were readmitted had advanced carcinoma of the thyroid and had developed tracheostomy-related complications secondary to recurrent tumour overgrowth and tumour bleeding.

Discussion

These results show a trend of decreasing postoperative hospitalisation from an average of 3.8 days in 1989 to 1.3 days in 1999 (Table II). These figures are low compared to two other reported series from the developed world^{10,11}. In one of these series a stay of 5.9 and 4.2 was reported¹⁰ and the other reported a stay of 1.8 days after operation.

In recent years the Department of Surgery in the University Teaching Hospital has relinquished bed space to another department because of increasing patient load in the hospital. Furthermore over the years there has been a growing shortage of nursing staff. These limitations are not unique to our institution as similar difficulties have been reported from two developed world countries, one in Europe¹² and the other from the North American continent⁴. Such circumstances have been partly responsible for the curtailment of elective operating lists¹³. A further confounding factor has been the pattern of disease seen in this part of the world. Burns, trauma and sepsis are common disorders. Patients with these conditions form the bulk of our inpatient load and occupy a substantial number of our beds for long periods¹⁴, thus limiting the space

available for elective surgery cases. Moreover long stay septic cases are a source of infection in an already overburdened and understaffed ward. For the aforementioned reasons short stay surgery was introduced in the author's unit with the intention of ameliorating the situation.

Short-stay surgery is now well established in some countries of the developed world². Its widespread adoption indicates that such an approach to patient care is acceptable. It permits rapid patient turnover, a better utilization of available bed space, reduced hospital cost per patient¹⁰, and diminished likelihood of cross infection.

In implementing this approach to patient management the development of clinical guidelines¹⁵ and a discharge policy to the community would be helpful. In some countries general practitioners and home care teams form a well established community based health care system which can ensure follow-up of hospital discharged patients¹⁶. In contrast such services are rudimentary or not available in most countries of the region^{17,18}. To circumvent this difficulty patients were reviewed within one week of discharge from hospital. This approach was implemented successfully throughout the study period and we achieved regular follow-up of our patients. With the exception of the two patients described earlier, all the remaining 77 patients were reviewed with one week of hospital discharge. Such a high follow-up rate was possible with our patients because most were city dwellers and the rest had relatives and extended families within the city with whom they could reside temporarily.

Conclusion

With almost a decade of falling per capita income in Sub-Saharan Africa¹⁷, diminishing health care resources worldwide, increase in population numbers, urbanization and a relative drop in hospital bed numbers short-stay thyroid surgery is a feasible and safe option in a selected group of patients in a developing world urban hospital. Further similar studies are envisaged in the Department and should help in strengthening the conclusions of this study.

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