



Empirical Calcium Supplements Paves Way for Day Surgery Thyroidectomy



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Abstract

Post operative hypocalcemia poses major resistance to discharge of thyroidectomised patients early. Our institute had implemented a new protocol to give empirical calcium supplements since Jan 2012 to prevent symptomatic hypocalcemia and facilitate early discharge. 75 (88.24%) out of 85 did not have significant or symptomatic hypocalcemia and can be discharged by first post operative day with only 2 (2.67%) patients being readmitted electively for significant hypocalcemia on follow up. In the selected subgroup to consider for day or short stay surgery, which excludes known cancer cases, concomitant primary hyperparathyroidism and retrosternal goitres, 58 (95.08%) out of 61 were able to be discharged on first post operative day without symptoms. All those who could not be discharged reported symptoms by 16 hours. Our results confirmed in well selected patient groups with routine calcium supplements and early follow up, discharging thyroidectomised patients is feasible and safe within 24 hours.



Background

Post operative transient hypocalcemia is one of the common reasons that patients could not be discharged after total or completion thyroidectomy¹. We propose empirical calcium and vitamin D supplements can cover most of the these cases so that patients can be discharged safely by first postoperative day. Short-stay/ one-day thyroid surgery had been reviewed in different centres and proven to be safe in at least high volume centres^{2,3}. We had been performing day case hemithyroidectomies⁴ with a low rate of unplanned stay or readmission, we believe with careful selection of cases, short stay or even day surgery for total or completion thyroidectomies can also be considered.

Our Protocol

Postoperative routine empirical supplements

- Stat Caltrate 600 3000mg and Rocaltrol 0.5 microgram
- Caltrate 600 1500mg and Rocaltrol 0.25 microgram both BD Serum PTH check on first postoperative day

Follow up at dedicated clinic by specialists

- first follow up within post operative day 4 to 7
- serum adjusted calcium checked each visit
- initiation of weaning by standardized weaning programme

Most patients who are successful to be weaned off calcium on first trial takes about 4 weeks after operation.

Results

From the period in Jan 2012 to Dec 2012, a total of 85 cases of elective total or completion thyroidectomies were performed and managed under the above specified protocol. (see Fig)

All operations were performed or supervised by the same senior surgeon. Post operative management, decision to remove drains and discharge, subsequent follow up and weaning of calcium supplements were also protocol driven, attended by two of the specialists in the team. Demographics, operative details and subsequent pathology and blood results were prospectively collected.

There were 3 cases initially discharged on the first post operative day, but then detected to have significant hypocalcemia (serum adjusted calcium <1.90 mmol/L) on follow up. One of them refused readmission but was successfully managed in the out-patient setting. Readmission rate was 2.67%.

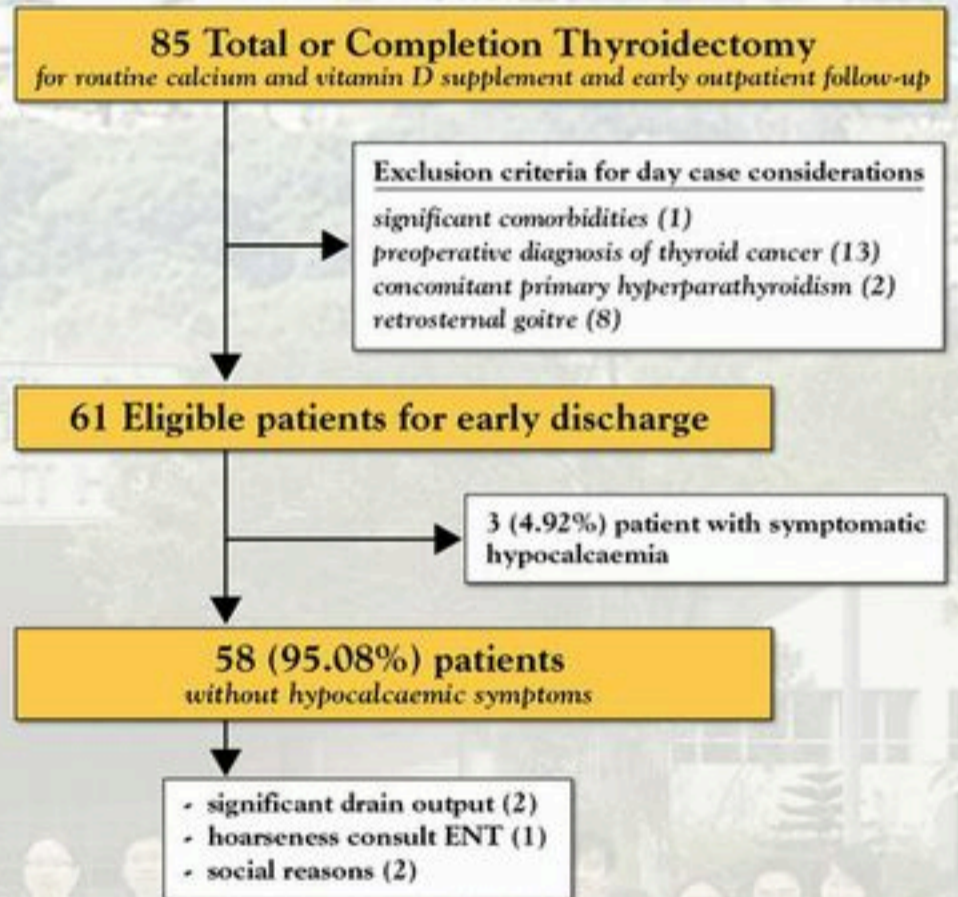
There was one confirmed case of permanent unilateral recurrent nerve injury, 2 cases of post operative bleeding which one was readmitted as emergency case on day 9 and another readmitted clinically during first follow up as noted to have neck swelling. Both did not have respiratory distress on presentation but required re-operation.

With pure consideration of post operative symptomatic hypocalcemia, nearly 90% will be able to be discharged on day 1 (75/85= 88.24%). We noted also that the level of D1PTH and whether parathyroids were implanted did not affect the decision to discharge the patients. Also, not being symptomatic at day 1 did not predict whether the patient will or will not have permanent hypoparathyroidism.

For those cases that cannot be discharged due to symptomatic or significant hypocalcemia. 7 were symptomatic, whom all presented by at most 16 hours post operatively. For those cases admitted to ICU, the first post operatively (around 30minutes) adjusted calcium level already revealed hypocalcemia. For the others, hypocalcemia were detected on routine blood taking.

Discussion

By excluding those deemed not suitable for day case, we have 61 patients with total or completion thyroidectomy eligible. The rate of possible discharge on Day 1 based on lack of symptomatic hypocalcemia was (58/61) 95.08%. Readmission rate was 3.28% for post discharge significant hypocalcemia.



Conclusions

Routine empirical calcium and vitamin D supplement facilitates safe and early discharge. Units must however be able to provide early and frequent out patient follow up with blood checks to ensure patients' safety. In well selected patients, this can allow up to 95% to be discharged asymptomatic by first post operative day with a readmission rate of approximately 3% for significant hypocalcemia.

Solely based on patient symptoms, we would recommend 23hr same day discharge to be feasible and safe in well selected patients with total or completion thyroidectomy.

References

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