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CHIRURGIE CERVICO-FACIALE

The Risk of Hypocalcemia in Total Thyroidectomy with Mediastinal-Recurrent Cellular and Lymph Node Dissection

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Abstract

Aim: We aim to correlate the risk of hypocalcemia with mediastinal-recurrent cellular and lymph-node dissection, whether unilateral or bilateral, and incidental parathyroidectomy after total thyroidectomy. Material and methods: A retrospective study was conducted over a four-year period from 2020 to 2023 in the Department of Otorhinolaryngology and Cervicofacial Surgery at Salah Azaiez Institute in Tunisia. The study included 85 patients who underwent total thyroidectomy with mediastinal-recurrent cellular and lymph node dissection. The correlation between bilateral and unilateral mediastinal-recurrent cellular and lymph-node dissection and incidental parathyroidectomy and the risk of hypocalcemia was investigated in the immediate postoperative period, as well as at 1 month and 6 months following surgery. Hypocalcemia was defined as a total serum calcium concentration < 2.20 mmol/L. Persistent hypocalcemia was defined as hypocalcemia persisting for 6 months. Results: 85 patients were included, with a sex ratio of 0.2 (17 men, 68 women). The age range was between 9 and 85 years, with a median of 45.6. In the immediate postoperative period, 28 patients (32.9%) showed hypocalcemia, and 12 of those required intravenous supplementation due to severe hypocalcemia. Bilateral mediastinal-recurrent cellular and lymph-node dissection was not associated with a statistically significant increase in the risk of immediate hypocalcemia compared to unilateral mediastinal-recurrent cellular and lymph-node dissection (P = 0.41), but the risk was significant at 1 month (P = 0.02) and at 6 months. Incidental parathyroidectomy did not significantly increase the rate of early hypocalcemia (P = 0.28), but it was associated with a worsening at 1 month (P = 0.01) and a higher risk of persistent hypocalcemia. Conclusion: Hypocalcemia represents one of the most challenging complications following thyroid surgery. Bilateral mediastinal-recurrent cellular and lymph-node dissection may be linked to an increased risk of persistent hypocalcemia, primarily due to the heightened risk of devascularization related to per operative manipulation and incidental parathyroidectomy.

Aim

We aim to correlate the risk of hypocalcemia with mediastinal-recurrent cellular and lymph-node dissection, whether unilateral or bilateral, and incidental parathyroidectomy after total thyroidectomy.

Methods

A retrospective study was conducted over a 4-year period [2020 to 2023] in the Department of Otorhinolaryngology at Salah Azaiz Institute in Tunisia.
85 patients who underwent total thyroidectomy with mediastinal-recurrent cellular and lymph node dissection.

Results

Study involved 85 patients with total thyroidectomy and mediastinal lymph node dissection.
Examined link between dissection types and hypocalcemia risk.
Hypocalcemia = serum calcium < 2.20 mmol/L.
Persistent hypocalcemia is lasting hypocalcemia at 6 months.
17 men Vs 68 women
Age range 9-85, average 45.
Immediate postoperative hypocalcemia rate: 32.9%;
12 patients required IV treatment. (Figure 1)
Bilateral vs. unilateral dissection had no immediate hypocalcemia risk difference (P = 0.41).
Bilateral dissection showed significant risk increase at 1 month (P = 0.02) and 6 months.
Incidental parathyroidectomy didn't impact early hypocalcemia (P = 0.28).
Incidental parathyroidectomy was linked to worse outcomes at 1 month (P = 0.01) and persistent hypocalcemia.

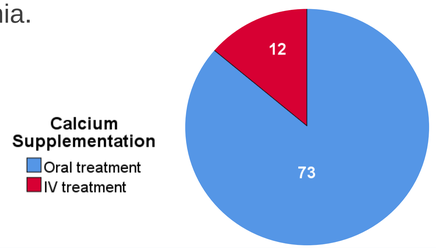

Figure 1: Modalities of calcium supplementation

Conclusion

Hypocalcemia represents one of the most challenging complications following thyroid surgery. [1]
Bilateral mediastinal-recurrent cellular and lymph-node dissection may be linked to an increased risk of persistent hypocalcemia. [2] This is primarily due to the heightened risk of devascularization related to per operative manipulation and incidental parathyroidectomy. [3]

References

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