

Thyroid autotransplantation after total thyroidectomy in multinodular goiter, a case series analysis.

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Abstract:

Background: Following the success of parathyroid autotransplantation, thyroid autotransplantation was introduced, aiming to avoid or reduce the severity of post-thyroidectomy hypothyroidism in noncompliant patients. **Aim of the Work:** To assess the survival and function of heterotopic autotransplanted thyroid tissue after total thyroidectomy, and to establish a relationship between autotransplanted volume and euthyroid state. **Methods:** We conducted a case series analysis, including 40 women diagnosed with multinodular goiter for whom total thyroidectomy was considered. Patients were randomized into two groups: group A (20 patients) who received 15 g and group B (20 patients) who received 10 g of healthy non-nodular thyroid tissue. Survival and function of heterotopic autotransplanted thyroid tissue was assessed by hormonal profile and thigh ultrasound scan (site of autotransplanted thyroid graft) 2, 6, and 12 months postoperatively. **Results:** There was no statistically significant difference between group A and group B regarding radioactive iodine uptake after the 2nd., 6th., and 12th. months. There was a statistically significant difference between results after the 2nd., 6th., and 12th. months regarding free T3 (FT3; tri-iodothyronine), free T4 (FT4; thyroxine), thyroid-stimulating hormone, and pulse ($p \leq 0.001$). The study revealed a highly statistically significant difference between the 2nd., 6th., and 12th. months in FT3, FT4, and TSH levels and pulse ($p \leq 0.001$) as well as highly statistically significant difference between group A and group B regarding FT3 and FT4 after the 2nd., 6th., and 12th. months ($p \leq 0.001$). Autotransplanted thyroid tissue processing and injection time range was 18–20 min, and none of the patients had immediate or delayed complications. **Conclusion:** We found the procedure to be safe, successful, and not time-consuming; we also found that better results were achieved when larger volumes were implanted in younger patients.