

What is the optimal treatment for benign multinodular goitre?

E.T. Massolt*, R.P. Peeters

Department of Internal Medicine, Rotterdam Thyroid Center, Erasmus Medical Center, Rotterdam, the Netherlands, *corresponding author: tel: +31(0)10-7044986, email: e.massolt@erasmusmc.nl

In this issue of the journal Attaallah *et al.* describe a retrospective study on the rate of progression and the reoperation rate after hemithyroidectomy for benign multinodular nodular goitre (BMNG).¹ After a relatively short follow-up time (mean of 31 months), progression of the nodular goitre was already observed in the remnant lobe in 32% of the patients. Due to this short period of follow-up, only 2% of the patients in this study underwent a contralateral hemithyroidectomy due to this progression. More than one fifth of the patients (22%) required levothyroxine-replacement therapy after hemithyroidectomy.

BMNG is one of the most common thyroid disorders. The appropriate treatment is often a matter of debate, with different preferences in different countries.^{2,3} Surgery is the recommended treatment of choice when facing a large goitre or when malignancy cannot be ruled out. In other cases, ¹³¹I therapy is a good alternative for the treatment of symptomatic non-toxic BMNG, since it results in a mean thyroid volume reduction of ~40% one year after treatment along with a very high degree of patient satisfaction and few side effects.^{2,4} However, the goitre volume reduction is inversely correlated to the initial goitre size.⁵ Another drawback of ¹³¹I therapy when treating large goitres is the need for relatively high ¹³¹I activities, requiring expensive and inconvenient inpatient treatment. For toxic BMNG, a cure rate (euthyroidism) of 52% within three months after one ¹³¹I treatment can be expected with an overall cure rate of 92% with one or two treatments.⁶ In addition, a reduction of the median thyroid volume by 43% is reported and only a minority of patients (14%) develop hypothyroidism within five years of treatment.⁶ In the current study by Attaallah *et al.*, 23% of the patients were hyperthyroid.¹ It is not clear why ¹³¹I treatment was not considered in these patients. When surgery is chosen as definitive management, current guidelines and evidence-based reviews recommend total thyroidectomy for bilateral BMNG and toxic BMNG.^{7,8} Arguments for

total thyroidectomy are high recurrence rates after subtotal thyroidectomy requiring re-intervention of > 10% during long-term follow-up as well as evidence that permanent complication rates of hypoparathyroidism and vocal palsy associated with subtotal and total thyroidectomy are not different while re-intervention increases the risk of these complications.^{7,9} Furthermore, 3.5% of BMNG patients initially treated with subtotal thyroidectomy have to undergo re-operation for completion thyroidectomy because of incidental thyroid cancers.⁷

However, some authors state that unilateral thyroidectomy can be considered for unilateral BMNG, as evidenced by a 2% recurrence rate (requiring re-intervention) and maintenance of euthyroidism in 73% of patients.^{10,11} The current study by Attaallah *et al.*, in which the majority of patients (75%) had no nodules in the contralateral lobe preoperatively, shows very similar results.¹ However, it is very well possible that the re-intervention rate in the patients of this study will increase with a longer follow-up time.

Once the diagnosis and indication for treatment of BMNG has been made, the treating physician and patient should discuss each of the treatment options, including the logistics, benefits, expected speed of recovery, drawbacks, side effects, costs and then decide on the best treatment modality for that particular patient, taking into account the patient's age and comorbidities.

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