



THYROID NODULES

Success rate of repeat biopsy of thyroid nodules may not necessarily be improved by waiting three months from the initial biopsy

BACKGROUND

Thyroid nodules are very common, occurring in up to 50% of individuals in some studies. When there is a concern for thyroid cancer, which is often due to the size of the nodule or certain ultrasound features, the next step is a thyroid fine needle aspiration biopsy. In up to 10-15% of biopsies, the results of the biopsy are reported to be inadequate/insufficient or non-diagnostic. Since a diagnosis cannot be made in these cases, a repeat biopsy of the nodule is typically recommended. Some experts have recommended that a repeat biopsy be done no sooner than 3 months after the initial biopsy, since the damage and repair to cells in the area of the biopsy could cause the biopsy result to be wrongly interpreted as cancer. This study examined whether the success rate of repeat thyroid biopsies differed according to whether the repeat biopsies were performed within 3 months of the initial biopsy or after 3 months.

THE FULL ARTICLE TITLE:

Singh RS, Wang HH. Timing of repeat thyroid fine-needle aspiration in the management of thyroid nodules. *Acta Cytol* 2011;55:544-8. Epub December 9, 2011.

SUMMARY OF THE STUDY

The authors reviewed the cytology reports of 307 people evaluated at Beth Israel Deaconess Medical Center, who had more than one biopsy of the same nodule. The initial cytology was read as non-diagnostic in 138 individuals and insufficient in 108 individuals. A total of 94 patients (68%) had the repeat biopsy performed less than 3

months after the initial one while the rest had the repeat biopsy more than 3 months after the initial biopsy. About half (53%) of the repeat biopsies provided a diagnosis and there was no difference in the success rate in between samples obtained less than 3 months after the initial biopsy (52%) or those obtained more than 3 months after the initial biopsy (54%). Of the 307 individuals in the study, 81 (26%) went on to have their thyroid surgically removed by thyroidectomy. In these 81 individuals, there was no difference in the rate of false positive biopsy results (ie. thyroid cancer diagnosed based on the cytology when there was no cancer after surgery), whether the repeat biopsy was performed less than 3 months (16% of repeat biopsy results) or more than three months (12% of repeat of biopsy results) after the initial biopsy.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

When the initial thyroid biopsy is read as non-diagnostic or insufficient, a repeat biopsy is recommended but unfortunately yields a diagnosis in only about half of cases. The success of a repeat thyroid biopsy in obtaining a diagnosis does not appear to change whether the repeat biopsy is performed before or after 3 months after the initial biopsy.

— Anna Sawka, MD

ATA THYROID BROCHURE LINKS

Thyroid Nodules: http://thyroid.org/patients/patient_brochures/nodules.html

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THYROID NODULES, continued

ABBREVIATIONS & DEFINITIONS

Thyroid nodule: an abnormal growth of thyroid cells that forms a lump within the thyroid. While most thyroid nodules are non-cancerous (Benign), ~5% are cancerous.

Thyroid fine needle aspiration biopsy (FNAB): a simple procedure that is done in the doctor's office to determine if a thyroid nodule is benign (non-cancerous) or cancer. The doctor uses a very thin needle to withdraw cells from the thyroid nodule. Patients usually return home or to work after the biopsy without any ill effects.

Inadequate/Insufficient biopsy: this happens with not enough cells are obtained during the biopsy to provide a diagnosis. This occurs in 5-10% of biopsies. This often results in the need to repeat the biopsy.

Non-diagnostic thyroid biopsy: this happens when some atypical cells are found but not enough to provide a diagnosis. This occurs in 5-10% of biopsies. This often results in the need to repeat the biopsy.

Thyroidectomy: surgery to remove the entire thyroid gland. When the entire thyroid is removed it is termed a total thyroidectomy. When less is removed, such as in removal of a lobe, it is termed a partial thyroidectomy.