



THYROID CANCER

Radioactive iodine therapy for women with thyroid cancer is associated with delayed time to child-bearing and with decreased fertility in older women

BACKGROUND:

Radioactive iodine therapy for thyroid cancer is a very effective therapy for moderate to high risk thyroid cancer patients. Side effects of radioactive iodine therapy are infrequent but can be significant and include the development of other cancers and non-cancerous complications such as decreased saliva, dry mouth, dental cavities, dry eyes and tear duct obstruction. Limited data is available regarding the reproductive complications associated with radioactive iodine therapy. It has been reported that the radioactive iodine therapy can result in a short-lived disruption of the menstrual cycle in the first year after treatment and a slightly earlier onset of menopause. Prior smaller studies have suggested that the radioactive iodine therapy does not result in decreased fertility. The aim of this study was to evaluate the frequency of non-cancerous complications and the effect of radioactive iodine therapy on childbearing in female thyroid cancer survivors.

THE FULL ARTICLE TITLE:

Wu JX et al. Reproductive outcomes and non-oncologic complications after radioactive iodine ablation for well-differentiated thyroid cancer. *Thyroid* 2015;251:133-8.

SUMMARY OF THE STUDY:

This study used the California Cancer Registry (CCR) and the California Office of Statewide Health Planning and Development (OSHPD) database. A total of 25,233 patients with papillary or follicular thyroid cancer were identified in the database between 1999 and 2008. Among these, 13,211 patients received radioactive iodine therapy. The patients who received radioactive iodine therapy were younger, had larger cancers, higher rates of spread of the cancer outside of the thyroid disease and fewer associated health issues. The patients who received radioactive iodine therapy were also more likely to develop nasal and tear-duct obstruction than those who did not receive this treatment. The radioactive iodine therapy was not associated with a higher risk of any other non-cancerous complications.

The database included 18,850 women of childbearing

age with thyroid cancer followed for an average period of 4 years. Among these, 9,883 (52.4%) patients received radioactive iodine therapy. Women who received radioactive iodine therapy were younger, had higher socioeconomic status, tended to be married and had larger cancers than women who did not receive this treatment. There were 104 pregnancies at the time of the cancer diagnosis that resulted in live birth. A total of 1,179 live births occurred during the follow-up period. Overall, there was no difference in the birth rates between women who received and those who did not receive radioactive iodine therapy treatment in the entire group. However, women 35 years of age or older who received radioactive iodine therapy had lower birth rates than those who did not receive this treatment (11.5 vs. 16.3 births per 1000 person-years). The average time to the first delivery after diagnosis was longer in women who received than those who did not receive radioactive iodine therapy (34.5 months vs. 26.1 months).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This is the largest published population-based study examining the fertility rates in patients who receive treatment for thyroid cancer. In this study, radioactive iodine therapy was associated with a delayed time to child-bearing and with a decreased birth rate in women over 35 years of age. The study showed that the severity of the disease did not affect the birth rate. Further studies are needed to evaluate whether the decrease in birth rate in older women who receive radioactive iodine therapy reflects their choice or decreased fertility. Women of child bearing age with thyroid cancer should be advised regarding the potential of the radioactive iodine therapy to affect their reproductive capacity.

— Alina Gavriila, MD, MMSC

ATA THYROID BROCHURE LINKS

Thyroid cancer: <http://www.thyroid.org/cancer-of-the-thyroid-gland>

Radioactive Iodine Therapy: <http://www.thyroid.org/radioactive-iodine>



THYROID CANCER, continued

ABBREVIATIONS & DEFINITIONS

Papillary thyroid cancer: the most common type of thyroid cancer.

Follicular thyroid cancer: the second most common type of thyroid cancer.

Radioactive iodine (RAI): this plays a valuable role in diagnosing and treating thyroid problems since it is taken up only by the thyroid gland. I-131 is the destructive form used to destroy thyroid tissue in the treatment of thyroid cancer.