# Association between thyroid gland diseases and breast cancer: a case-control study

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## Background

At the present time, there is no consensus on the association between benign thyroid diseases and breast cancer (BC). Therefore, the aim of this study is to help shed some light on the association between hyperthyroidism, hypothyroidism, and thyroiditis and breast cancer risk.

## Methods

Use of the Disease Analyzer database (IQVIA) enabled us to perform a retrospective case-control study of 7408 women aged between 18 and 80, who were treated for an initial breast cancer diagnosis in a general practice in the United Kingdom between 2006 and 2015 (index date). Patients with a previous cancer diagnosis and an observation time of less than 12 months prior to the index date were excluded. The control group consisted of 7408 healthy women, who were matched to cases 1:1 by age, body mass index, hormone replacement therapy, and physician. The main outcome parameters of this study were the presence of thyroid disease (hypothyroidism, hyperthyroidism, struma, and thyroiditis) and the TSH values in the two groups. A univariate logistic regression model was used to investigate the association between benign thyroid diseases, TSH values, and BC.

## Results

The mean age was 58.4 years in both groups. We found a significant association between thyroiditis and BC (OR: 1.91, p = 0.01) and were able to refute the association between hyperthyroidism/hypothyroidism and BC. We also found that thyroid-stimulating hormone (TSH) had no significant effect on breast cancer risk.

## Conclusion

Many experimental studies suggest a link between hyperthyroidism/hypothyroidism and BC. We were able to demonstrate an epidemiological association between thyroiditis and an increased BC risk. This shows the need for close monitoring for BC in women with thyroiditis.

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# Incidence of fractures in young women with breast cancer - a retrospective cohort study

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In recent years, cancer treatment-induced bone loss (CTIBL) and increased risk of fracture has become an emerging problem as breast cancer (BC) survival has increased due to early diagnosis and improved treatments. In premenopausal women with BC, chemotherapy and tamoxifen are the treatments of choice in hormone receptor-negative and hormone receptor-positive BC respectively. Their effect on fracture risk has only been investigated in a few small-scale studies. Therefore, we investigated the fracture risk in a cohort study based on data from the Disease Analyzer database (IQVIA) and included 1761 individuals with BC and 1761 healthy women for comparison. After applying similar inclusion criteria, patients with BC were matched 1:1 to those without BC with regard to age, index year, and physician. Within 10 years of the index date, 6.4% of healthy women and 14.2% with BC sustained a fracture (log-rank p-value < 0.001), showing a positive association between breast cancer and fractures (adjusted hazard ratio (HR)=2.39, p < 0.001). When analyzing women with BC with and without tamoxifen treatment, 14.7% with and 12.9% without tamoxifen sustained a fracture. However, after adjustment, the HR was 2.58 (p < 0.001) for women on tamoxifen versus healthy women and 1.63 (p = 0.181) for women with BC without tamoxifen treatment versus healthy women. In conclusion, premenopausal women with BC with or without tamoxifen treatment had an increased incidence of fractures compared to healthy women, but this difference was only significant when comparing tamoxifen users versus healthy women. More studies are needed to identify the specific risk factors of women at high risk.

*J Bone Oncol. 2019 Jul 26;18:100254. doi: 10.1016/j.jbo.2019.100254. eCollection 2019 Oct.*

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# Are data from general practices suitable for survival analyses in the field of breast cancer? A retrospective study conducted in the United Kingdom, France and Germany

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The aim of the present study was to investigate the suitability of data obtained from general practices in the UK, France, and Germany for survival analyses in the field of breast cancer (BC). This study included women diagnosed with BC between 2004 and 2008 in 416, 322 and 210 general practices in the UK (n=4,085), France (n=1,198) and Germany (n=2,934), respectively. The outcomes of the study were the mean duration of follow-up in years and the proportion of participants followed for at least 5 years. The mean duration of follow-up was 7.5-9.6 years in the UK, 7.4-8.8 years in France and 6.3-8.5 years in Germany. The proportion of patients followed for at least 5 years was 80-91% in the UK, 68-78% in France, and 55-76% in Germany. The data obtained in general practices in the UK appeared to be more suitable for survival analyses in the field of BC when compared with those obtained in France and Germany.

*Mol Clin Oncol. 2019 Aug;11(2):177-180. doi: 10.3892/mco.2019.1874. Epub 2019 Jun 10.*

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# Increased risk for cancer after stroke at a young age: etiological relevance or incidental finding?

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## Background

Etiological factors, such as a malignant disease, in young stroke patients are often neglected. Therefore, in this study, we aimed to investigate the risk of developing cancer in young stroke survivors.

## Methods

The current case-control study sample included patients who received an initial ischemic stroke diagnosis documented in the Disease Analyzer database (IQVIA), which compiles data such as risk factors, drug prescriptions, and diagnoses obtained from general practitioners and specialists.

## Results

The stroke and non-stroke groups included 18,668 patients each; each group had 2836 (15.3%) participants≤55 years. The cancer incidence in the stroke group over the age of 55 years was higher than in the younger subgroup (29.4% versus 17.3%). The proportions of cancer patients within 10 years of follow-up were higher in the stroke group versus the non-stroke group, as well as in the subgroup of patients aged≤55 versus patients>55 years (17.3% versus 9.5% and 29.4% versus 24.9%, respectively). The calculated hazard ratio for developing cancer within 10 years of follow-up was higher in the younger stroke population (≤55 years) than in the older population (hazard ratio: 1.47 (CI 1.18-1.83) versus 1.17 (CI 1.10-1.25).

## Conclusion

In our cohort, young individuals aged≤55 years who suffered a stroke had twice as high risk for developing cancer within 10 years after the index event compared to the control group. Stroke might have implication regarding the subsequent development of cancer and vice versa.

*J Cancer Res Clin Oncol. 2019 Dec;145(12):3047-3054. doi: 10.1007/s00432-019-03022-x. Epub 2019 Sep 10.*

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# Fecal and urinary incontinence are major problems associated with rectal cancer

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## Background

The goal of this retrospective cohort study was to analyze the incidence of urinary incontinence (UI) and fecal incontinence (FI) within 5 years of diagnosis in patients with rectal carcinoma (RC) and within 5 years of a randomly selected visit date in non-cancer controls followed in general practices in Germany.

## Methods

Patients who had received an initial RC diagnosis at one of 1262 general practices in Germany between January 2008 and December 2017 were included in this study (index date). Patients without cancer were matched (1:1) to RC patients by sex, age, index year, and practice. The main outcome of the study was the incidence of UI and FI within 5 years of RC diagnosis.

## Results

The study included 3249 individuals with RC and 3249 individuals without cancer (mean age 66.5 years, 57.3% males). Within 5 years of the index date, 8.6% of RC patients and 1.3% of patients without cancer received a FI diagnosis, and 16.7% of RC patients and 5.3% of patients without cancer received a UI diagnosis. Overall, RC was positively associated with both FI (hazard ratio (HR) 8.39, 95% CI 5.50-12.81) and UI (HR 3.59, 95% CI 2.91-4.44). These findings were corroborated in the different age subgroups

## Conclusion

In accordance with the literature, we confirmed that RC is significantly associated with fecal and urinary incontinence. However, it appears that the awareness of this fact needs to be improved among general practitioners since our data show lower percentages of fecal and urinary incontinence diagnoses compared with the percentages for specialized centers reported in the literature.

*Int J Colorectal Dis. 2020 Jan;35(1):35-40. doi: 10.1007/s00384-019-03450-8. Epub 2019 Nov 22.*

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# Prescription of Hormone Replacement Therapy Prior to and After the Diagnosis of Gynecological Cancers in German Patients

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## Purpose

Little is known about how a gynecological cancer diagnosis affects a gynecologist's decision to prescribe hormone replacement therapy (HRT). Therefore, the goal of this study was to analyze the prevalence of HRT prescription prior to and after the diagnosis of four gynecological cancers in women followed in gynecological practices in Germany.

## Methods

This study included women who were diagnosed with breast, uterine, ovarian, or vulvar cancer in 281 gynecological practices in Germany for the first time between January 2011 and December 2017. The first outcome of the study was the proportion of women with at least one HRT prescription in the year prior to and in the year after cancer diagnosis. The second outcome of the study was the proportion of gynecological practices that issued at least one HRT prescription in the year prior to and in the year after cancer diagnosis.

## Results

A total of 7189 women were included in this study. The proportion of women receiving at least one HRT prescription significantly decreased between the year prior to and the year after cancer diagnosis in the breast cancer (16.3% versus 2.3%) and the uterine cancer groups (13.4% versus 5.8%), but not in the ovarian cancer (17.6% versus 15.1%) and the vulvar cancer groups (10.8% versus 13.1%). Similar findings were obtained for the proportion of gynecological practices that issued at least one HRT prescription.

## Conclusion

HRT prescriptions significantly decreased after the diagnosis of breast and uterine cancers but not after the diagnosis of ovarian and vulvar cancers.

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