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Gastric Carcinoma and Thyroid Status

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Abstract

Gastric carcinoma is reported to be more frequent in geographical areas where diets are either iodine-deficient or iodine-excessive. Reports have also shown an association between thyroid diseases and some of the risk factors for gastric carcinoma. We investigated the frequency of thyroid disorders in 61 patients with gastric carcinoma compared with 55 healthy control subjects. Thyroid health was evaluated by physical examination and by measuring the serum levels of thyroid hormones and thyroid autoantibodies. More patients with gastric cancer had goitre compared with healthy controls (49.1% versus 20%, respectively). Significantly more patients with gastric cancer had non-toxic goitre compared with control subjects. There was also a significant difference in the incidence of autoimmune thyroid disease –27.8% of patients with gastric cancer versus 10.9% of control subjects were affected. These results indicate that there is a significant association between gastric cancer and thyroid disorders.

Keywords

[Gastric carcinoma](#), [Autoimmune thyroid disease](#), [Thyroid](#)

References

1. Kurtz, RC, Sherlock, P: The diagnosis of gastric cancer. *Semin Oncol* 1985; 12: 11–18.
[Google Scholar](#) | [Medline](#)
2. Scheiman, JM, Cutler, AF: *Helicobacter pylori* and gastric cancer. *Am J Med* 1999; 106: 222–226.

[Google Scholar](#) | [Crossref](#) | [Medline](#)

3. Kuipers, EJ : Review article: Relationship between *Helicobacter pylori*, atrophic gastritis and gastric cancer. *Aliment Pharmacol Ther* 1998; 12: 25–36.
[Google Scholar](#) | [Crossref](#) | [Medline](#)

4. Venturi, S, Venturi, A, Cimini, D, Arduini, C, Venturi, M, Guidi, A: A new hypothesis: Iodine and gastric cancer. *Eur J Cancer Prev* 1993; 2: 17–23.
[Google Scholar](#) | [Crossref](#) | [Medline](#)

5. Figura, N, Di Cairano, G, Lore, F, Guarino, E, Gragnoli, A, Cataldo, D: The infection by *Helicobacter pylori* strains expressing CagA is highly prevalent in women with autoimmune thyroid disorders. *J Physiol Pharmacol* 1999; 50: 817–826.
[Google Scholar](#) | [Medline](#)

6. de Luis, DA, Varela, C, de La Calle, H, Canton, R, de Argila, CM, San Roman, AL: *Helicobacter pylori* infection is markedly increased in patients with autoimmune atrophic thyroiditis. *J Clin Gastroenterol* 1998; 26: 259–263.
[Google Scholar](#) | [Crossref](#) | [Medline](#) | [ISI](#)

7. Centanni, M, Marignani, M, Gargano, L, Corleto, VD, Casini, A, Delle Fave, G: Atrophic body gastritis in patients with autoimmune thyroid disease: An underdiagnosed association. *Arch Intern Med* 1999; 159: 1726–1730.
[Google Scholar](#) | [Crossref](#) | [Medline](#)

8. Wang, J, Griggs, ND, Tung, KS, Klein, JR: Dynamic regulation of gastric autoimmunity by thyroid hormone. *Int Immunol* 1998; 10: 231–236.
[Google Scholar](#) | [Crossref](#) | [Medline](#)

9. Irvine, WJ : Autoimmune atrophic gastritis. In: *Genetics and Heterogeneity of Common Gastrointestinal Disorders* (Rotter, JI, Samloff, IM, Rimoin, DL, eds). New York: Academic Press 1980; p 149.
[Google Scholar](#)

10. Syrigos, KN, Konstantoulakis, MM, Constantoulakis, M, Marafelia, P, Koutras, D, Golematis, BC: Thyroid autoantibodies and thyroid function in patients with gastric cancer. *Acta Oncol* 1994; 33: 905–907.
[Google Scholar](#) | [Crossref](#) | [Medline](#)

11. Vereshchagina, GV, Klimenkov, AA, Sarkisian, RG: Deficiency of the triiodothyronine pool in patients with stomach cancer. *Vopr Onkol* 1989; 35: 299–304.
[Google Scholar](#) | [Medline](#)

12. Beletskaja, OM : The pathophysiological significance of the low triiodothyronine syndrome with increased clearance in cancer of the stomach and large intestine. *Lik Sprava* 1996; Mar - Apr: 181–184.
[Google Scholar](#) | [Medline](#)

13. Franceschi, S : Iodine intake and thyroid carcinoma - a potential risk factor. *Exp Clin Endocrinol Diabetes* 1998; 106: 38–44.
[Google Scholar](#) | [Crossref](#)

14. Segev, DL, Umbricht, C, Zeiger, MA: Molecular pathogenesis of thyroid cancer. *Surg Oncol* 2003; 12: 69–90.
[Google Scholar](#) | [Crossref](#) | [Medline](#) | [ISI](#)

15. Prummel, MF, Strieder, T, Wiersinga, WM: The environment and autoimmune thyroid diseases. *Eur J Endocrinol* 2004; 150: 605–618.
[Google Scholar](#) | [Crossref](#) | [Medline](#) | [ISI](#)

16. Ward, JM, Ohshima, M: The role of iodine in carcinogenesis. *Adv Exp Med Biol* 1986; 206: 529–542.
[Google Scholar](#) | [Medline](#)

17. Venturi, S, Donati, FM, Venturi, A, Venturi, M, Grossi, L, Guidi, A: Role of iodine in evolution and carcinogenesis of thyroid, breast and stomach. *Adv Clin Path* 2000; 4: 11–17.
[Google Scholar](#) | [Medline](#)

18. Ma, F, Zhao, W, Kudo, M, Aoki, K, Misumi, J: Inhibition of vacuolation toxin activity of *Helicobacter pylori* by iodine, nitrite and potentiation by sodium chloride, sterigmatocystin and fluoride. *Toxicol In Vitro* 2002; 16: 531–537.
[Google Scholar](#) | [Crossref](#) | [Medline](#)

19. Venturi, S, Venturi, M: Iodide, thyroid and stomach carcinogenesis: Evolutionary story of a primitive antioxidant? *Eur J Endocrinol* 1999; 4: 371–372.
[Google Scholar](#) | [Crossref](#)

20. Tramontano, D, Veneziani, BM, Lombardi, A, Villone, G, Ingbar, SH: Iodine inhibits the proliferation of rat thyroid cells in culture. *Endocrinology* 1989; 125: 984–992.
[Google Scholar](#) | [Crossref](#) | [Medline](#) | [ISI](#)

21. Das, D, De, PK, Banerjee, RK: Thiocyanate, a plausible physiological electron donor of gastric peroxidase. *Biochem J* 1995; 305: 59–64.
[Google Scholar](#) | [Crossref](#) | [Medline](#)

22. Das, D, Bandyopadhyay, D, Bhattacharjee, M, Banerjee, RK: Hydroxyl radical is the major causative factor in stress-induced gastric ulceration. *Free Radic Biol Med* 1997; 23: 8–18.
[Google Scholar](#) | [Crossref](#) | [Medline](#)
-
23. Haynes, RC, Murad, F: Thyroid and antithyroid drugs. In: *The Pharmacological Basis of Therapeutics* (Goodman, L, Gilman, A, eds). New York: MacMillan Publishing Co. 1980; p 1513.
[Google Scholar](#)
-
24. Marani, L, Venturi, S, Masala, R: Role of iodine in delayed immune response. *Israel J Med Sci* 1985; 21: 864.
[Google Scholar](#) | [Medline](#)
-
25. Stevens, RK, Cole, DA, Liu, PT, Cheng, HF: Postpartum cell-mediated immunity induced in the rat following perinatal exposure to iodine-131. *Anticancer Res* 1983; 3: 347–351.
[Google Scholar](#) | [Medline](#)
-
26. Guernsey, DL, Leuthauser, SW: Correlation of thyroid hormone dose-dependent regulation of K-ras protooncogene expression with oncogene activation by 3-methylcholanthrene: Loss of thyroidal regulation in the tranformed mouse cell. *Cancer Res* 1987; 47: 3052–3056.
[Google Scholar](#) | [Medline](#)
-
27. Wang, CS, Lin, KH, Hsu, YC: Alterations of thyroid hormone receptor alpha gene: Frequency and association with Nm23 protein expression and metastasis in gastric cancer. *Cancer Lett* 2002; 175: 121–127.
[Google Scholar](#) | [Crossref](#) | [Medline](#)