Advanced Research Journal of Medical Sciences ISSN: 1740-3499 Vol. 6(1), pp. 145-150, May, 2020.
Available online at www.advancedscholarsjournals.org © Advanced Scholars Journals

Review paper

pithy evaluation of sarcoidosis of the thyroid gland

Asabe AB[2]*, Shoaib BB[2], Gul BK[1] and Mansoor T

[1] Department of Public Health Nutrition, Faculty of Public Health, University of Indonesia.
Department of Environmental Health, Faculty of Health and Environmental Sciences, University of Gezira, Sudan.

Accepted 22 January, 2020

Sarcoidosis of the thyroid gland is rare. It is rarely reported in the medical literature. In this review article we go over various presentation of sarcoidosis of the thyroid gland, ways to diagnose it, and treatment options.

Key words: Sarcoidosis, thyroid gland, hypothyroidism, Graves' disease.

SARCOIDOSIS OF THE THYROID GLAND

Sarcoidosis is a multisystem, chronic disease of unknown etiology, which is characterized by non-caseating granu- lomas (Sharma and Izumi, 1990; Hunninghake et al., 1980; Hunninghake and Crystal, 1981). Sarcoidosis invol- ving the thyroid gland is rare (Sharma and Izumi, 1990; Winnacker et al., 1968; Harach and Williams, 1990), with first case described in 1938 (Spencer and Warren, 1938). Incidences could be up to 4% in some autopsy series (Bacci et al., 1991; Maycock et al., 1963). Women are more affected than men. Patient with sarcoidosis of the thyroid gland can pre- sent hyperthyroidism (Papi et al., 2006), hypothyroidism (Winnacker et al., 1968; Antonelli et al., 2006), subclinical hyperthyroidism (Antonelli et al., 2006), and subclinical hypothyroidism (Antonelli et al., 2006). Hypothyroidism is caused by infiltration by epithelioid granulomas (Brun et al., 1959). Patient also might present goiter (Papi et al., 2006; Antonelli et al., 2006; Porter et al., 2003). Thyroid sarcoidosis mimicking malignancy has also been repor- ted (Mizukami et al., 1994; Weiss et al., 1989). An autoimmune phenomenon was mentioned before in patients with sarcoidosis (Hunninghake et al., 1980; Hun- ninghake and Crystal, 1981). Anti-thyroid antibodies per- centage ranged from 1.3 to 54.5% in patients with thyroid sarcoidosis in different studies (Nakamura et al., 1997; Hugues et al., 1997). Some studies showed that antithy- roglobulin antibodies were more common than TPO anti- bodies (Rubinstein et al., 1985; Ilias et al., 1998), while other studies showed the prevalence of TPO antibodies to be higher (Nakamura et al., 1997; Papadopoulos et al., 1996).

*Corresponding author. E-mail: asabeab@hotmail.com

Graves' disease and sarcoidosis have been associated with HLA gene (Papi et al., 2006). HLA-B8 associated with acute sarcoidosis was reported by Brewerton et al. (1977). Patients with thyroid sarcoidosis may have normal thyroid function test, hypothyroid picture (Winnac- ker et al., 1968), or hyperthyroid picture. Patients with sarcoidosis developing hypothyroidism, the U/S of the thyroid gland shows thyroid hypoechoic pattern and small thyroid volume (Antonelli et al., 2006). Histology can help in making the diagnosis (Gentilucci et al., 2004), which shows non-caseating granuloma (Gentilucci et al., 2004; Karlisch et al., 1970). Angiotensin converting enzyme level, though its sensitivity and speci- ficity for sarcoidosis is not perfect, can help to follow up the disease (Baudin, 2005). Treatment option depends on clinical presentation. Pa- tient with thyroid sarcoidosis presenting hyperthyroidism could be treated with anti-thyroid medication or radioac- tive iodine treatment, but it is not necessarily successful and patient might require surgery (Rodriguez et al., 2007). Thyroid replacement is a necessary therapy for patients with hypothyroidism. A steroid has been used as a treatment option (Gentilucci et al., 2004).

CONCLUSION

Sarcoidosis of the thyroid gland is very rare, and might have various clinical presentations. There is an auto- immune element, with thyroid U/S showing hypoechoic pattern and small thyroid volume. Histological examina- tions help in making the diagnosis. Treatment depends on clinical presentation.

REFERENCES

Sharma OP, Izumi T (1990). Sarcoidosis. In: Cannon GW, Zimmerman

GA eds. The lung in rheumatic diseases. New York: Marcel Dekker. 433-459.
Hunninghake GW, Gadek JE, Young RC, Kawanami O, Ferrans VJ, Crystal RG (1980). Maintenance of granuloma formation in pulmonary sarcoidosis by T-lymphocytes within the lung. NEJM. 302:594-598.
Hunninghake GW, Crystal RG (1981). Pulmonary Sarcoidosis: a disorder mediated by excess helper T-lymphocye activity at sites of disease activity. NEJM. 305: 429-434.
Winnacker JL, Becker KL, Katz S (1968). Endocrine aspects of sarcoidosis. NEJM. 278: 483-492.
Harach HR, Williams ED (1990). The pathology of granulomatousdiseases of the thyroid gland. Sarcoidosis. 7: 19-27.
Spencer J, Warren S (1938). Boeck's Sarcoid: Report of a case, with Clinical Diagnosis Confirmed at Autopsy. Arch. Intern. Med. 62: 285-
296.
Bacci V, Giammarco V, Germani G, Pelosio A, Nardi F (1991). HurthleCell Hyperplasia and Sarcoidosis of the Thyroid. Arch. Pathol. Lab. Med. 115:1044-1046.
Maycock RL, Bertrand P, Morrison CDE (1963). Manifestations ofsarcoidosis: analysis of 145 patients with a review of nine series selected from the literature. Am. J. Med. 35:67-89.
Papi G, Briganti F, Artioli F, Cavazza A, Carapezzi C, Roggeri A, Baldoni C, Carani C, Chiarini V, Roti E (2006). Sarcoidosis of the thyroid gland associated with hyperthyroidism: Review of the literature and report of two peculiarcases. J. Endocrinol. Invest. 29: 834-839.
Antonelli A, Fazzi P, Fallahi P (2006). Prevalence of hypothyroidism and graves disease insarcoidosis. Chest. 130: 526-532.
Brun J, Mouriquand C, Combey P, Vauzelle J (1959). Thyroidite sclereuse d'origine sarcoidosique avec myxoedeme et fibrose pulmonaire diffuse. Lyon Med. 91:179-188.
Porter N, Beynon HL, Randeva HS (2003). Endocrine and reproductive manifestation of sarcoidosis. QJM. 96(8): 553-561.
Mizukami Y, Nomomura A, Michigishi T, Ohmura K, Matsubara S, Noguchi M (1994). Sarcoidosis of the thyroid gland manifested initially as thyroid tumor. Pathol. Res. Pract. 190 (12): 1201-1205.
Weiss IA, Limaye A, Techertkoff V, Brener JL (1989). Sarcoidosis of the thyroid clinically mimicking malignancy. NYS J. Med. 578-580.
Nakamura H, Genma R, Mikami T, Kitahara A, Natsume H, Andoh S, Nagasawa S, Nishiyama K, Chida K, Sato A, Yoshimi T (1997). High incidence of positive autoantibodies against thyroid peroxidase and thyroglobulin in patient with sarcoidosis. Clin. Endocrinol. (oxf) 46:467-472.
Hugues JN, Modigliani E, Battesti JP, Perret G, de Crémoux P, Valeyre D, Amouroux J, Vulpillat M, Pré J, Sebaoun J (1997). Thyroid disorders during sarcoidosis. Ann Med Interne (Paris).148: 102-103.
Rubinstein I, Baum GL, Hiss Y, Margaliot S, Yellin A (1985). Sarcoi- dosis and Hashimoto's thyroiditis: a chance occurrence?. Respira- tion. 48:136-139.
Ilias I, Panoutsopoulos G, Batsakis C, Nikolakakou D, Filippou N, Christakopoulou I (1998). Thyroid function and autoimmunity in sarcoidosis: a case control study. Croat. Med. J. 39:404-406.
Papadopoulos KI, Hornblad Y, Liljebladh H, Hallengren B (1996). High frequency of endocrine autoimmunity in patients with sarcoidosis. Eur. J. Endocrinol. 134:331-336.
Brewerton DS, Cockburn C, James DC, James DG, Neville E. (1977). HLA antigens in sarcoidosis. Clin. Exp. Immunol. 27: 227-229.
Winnacker J, Becker K, Katz S (1968). Endocrine aspects of sarcoi- dosis. N. Engl J. Med. 278:483-490.
Antonelli A, Fazzi P, Fallahi P, Ferrari SM, Ferrannini E (2006). Preva- lence of hypothyroidism and graves disease in sarcoidosis. Chest. 130: 526-532.
Gentilucci U, Picardi A, mantrini S, D'Avola D, Costantino S, Pozzilli P (2004). Granulomatous thyroiditis: an unexpected finding leading to the diagnosis of sarcoidosis. Acta. Biomed. 75 (1): 69-73.
Karlisch AJ, Thompson RP, Williams R (1970). Sarcoidosis, thyroiditi- sand Addison disease. Lancet. 2:330-333.
Baudin B (2005). Angiotensin I-convertingenzyme (ACE), for sarcoidosis diagnosis. Pathol. Biol. (Paris) 53(3): 183-188.
Rodriguez MC, Rani D, Faas FH (2007). Unusual clinical course of graves' thyrotoxicosis and concomitant sarcoidosis: case report and review of literature. Endocrine Pract. 13 (2): 159-163.