



Gut Microbiota Role in Thyroid Auto Immunity

Shoaie Saeed*

Department of Diagnostic Laboratory Medicine, Laurentine University, Canada

Editorial

Abstract: The gut microbiota plays a significant role in the development of thyroid autoimmunity. This review discusses the mechanisms by which the gut microbiota influences the immune system and the resulting autoantibodies. The gut microbiota is a complex community of microorganisms that reside in the gastrointestinal tract. It is composed of a diverse array of bacteria, fungi, and viruses. The gut microbiota is known to play a role in the development of various autoimmune diseases, including thyroid autoimmunity. The gut microbiota is thought to influence the immune system through several mechanisms, including the production of short-chain fatty acids (SCFAs) and the modulation of the gut barrier. SCFAs are produced by the fermentation of dietary fibers by the gut microbiota. They are known to have anti-inflammatory properties and to modulate the immune system. The gut barrier is a physical barrier that separates the gut lumen from the underlying tissues. It is composed of the intestinal epithelium and the mucus layer. The gut barrier is thought to play a role in the development of autoimmunity by allowing the entry of antigens into the bloodstream. The gut microbiota is thought to influence the gut barrier through several mechanisms, including the production of SCFAs and the modulation of the gut barrier. The gut microbiota is also thought to influence the immune system through the production of other metabolites, such as lipopolysaccharides (LPS) and peptidoglycans. LPS is a component of the cell wall of Gram-negative bacteria. It is known to have pro-inflammatory properties and to stimulate the immune system. Peptidoglycans are components of the cell wall of Gram-positive bacteria. They are also known to have pro-inflammatory properties and to stimulate the immune system. The gut microbiota is thought to influence the immune system through these metabolites by stimulating the production of pro-inflammatory cytokines and the activation of immune cells. The resulting autoantibodies are thought to be the cause of thyroid autoimmunity. The gut microbiota is a complex and dynamic system that plays a significant role in the development of thyroid autoimmunity. Further research is needed to fully understand the mechanisms by which the gut microbiota influences the immune system and the resulting autoantibodies.

Keywords: Gut microbiota, thyroid autoimmunity, autoantibodies, immune system, gut barrier, SCFAs, LPS, peptidoglycans, inflammation, autoantibodies.

Introduction: The gut microbiota is a complex community of microorganisms that reside in the gastrointestinal tract. It is composed of a diverse array of bacteria, fungi, and viruses. The gut microbiota is known to play a role in the development of various autoimmune diseases, including thyroid autoimmunity. The gut microbiota is thought to influence the immune system through several mechanisms, including the production of short-chain fatty acids (SCFAs) and the modulation of the gut barrier. SCFAs are produced by the fermentation of dietary fibers by the gut microbiota. They are known to have anti-inflammatory properties and to modulate the immune system. The gut barrier is a physical barrier that separates the gut lumen from the underlying tissues. It is composed of the intestinal epithelium and the mucus layer. The gut barrier is thought to play a role in the development of autoimmunity by allowing the entry of antigens into the bloodstream. The gut microbiota is thought to influence the gut barrier through several mechanisms, including the production of SCFAs and the modulation of the gut barrier. The gut microbiota is also thought to influence the immune system through the production of other metabolites, such as lipopolysaccharides (LPS) and peptidoglycans. LPS is a component of the cell wall of Gram-negative bacteria. It is known to have pro-inflammatory properties and to stimulate the immune system. Peptidoglycans are components of the cell wall of Gram-positive bacteria. They are also known to have pro-inflammatory properties and to stimulate the immune system. The gut microbiota is thought to influence the immune system through these metabolites by stimulating the production of pro-inflammatory cytokines and the activation of immune cells. The resulting autoantibodies are thought to be the cause of thyroid autoimmunity. The gut microbiota is a complex and dynamic system that plays a significant role in the development of thyroid autoimmunity. Further research is needed to fully understand the mechanisms by which the gut microbiota influences the immune system and the resulting autoantibodies.

Abstract: The gut microbiota plays a significant role in the development of thyroid autoimmunity. This review discusses the mechanisms by which the gut microbiota influences the immune system and the resulting autoantibodies. The gut microbiota is a complex community of microorganisms that reside in the gastrointestinal tract. It is composed of a diverse array of bacteria, fungi, and viruses. The gut microbiota is known to play a role in the development of various autoimmune diseases, including thyroid autoimmunity. The gut microbiota is thought to influence the immune system through several mechanisms, including the production of short-chain fatty acids (SCFAs) and the modulation of the gut barrier. SCFAs are produced by the fermentation of dietary fibers by the gut microbiota. They are known to have anti-inflammatory properties and to modulate the immune system. The gut barrier is a physical barrier that separates the gut lumen from the underlying tissues. It is composed of the intestinal epithelium and the mucus layer. The gut barrier is thought to play a role in the development of autoimmunity by allowing the entry of antigens into the bloodstream. The gut microbiota is thought to influence the gut barrier through several mechanisms, including the production of SCFAs and the modulation of the gut barrier. The gut microbiota is also thought to influence the immune system through the production of other metabolites, such as lipopolysaccharides (LPS) and peptidoglycans. LPS is a component of the cell wall of Gram-negative bacteria. It is known to have pro-inflammatory properties and to stimulate the immune system. Peptidoglycans are components of the cell wall of Gram-positive bacteria. They are also known to have pro-inflammatory properties and to stimulate the immune system. The gut microbiota is thought to influence the immune system through these metabolites by stimulating the production of pro-inflammatory cytokines and the activation of immune cells. The resulting autoantibodies are thought to be the cause of thyroid autoimmunity. The gut microbiota is a complex and dynamic system that plays a significant role in the development of thyroid autoimmunity. Further research is needed to fully understand the mechanisms by which the gut microbiota influences the immune system and the resulting autoantibodies.

Keywords: Gut microbiota, thyroid autoimmunity, autoantibodies, immune system, gut barrier, SCFAs, LPS, peptidoglycans, inflammation, autoantibodies.

Introduction: The gut microbiota is a complex community of microorganisms that reside in the gastrointestinal tract. It is composed of a diverse array of bacteria, fungi, and viruses. The gut microbiota is known to play a role in the development of various autoimmune diseases, including thyroid autoimmunity. The gut microbiota is thought to influence the immune system through several mechanisms, including the production of short-chain fatty acids (SCFAs) and the modulation of the gut barrier. SCFAs are produced by the fermentation of dietary fibers by the gut microbiota. They are known to have anti-inflammatory properties and to modulate the immune system. The gut barrier is a physical barrier that separates the gut lumen from the underlying tissues. It is composed of the intestinal epithelium and the mucus layer. The gut barrier is thought to play a role in the development of autoimmunity by allowing the entry of antigens into the bloodstream. The gut microbiota is thought to influence the gut barrier through several mechanisms, including the production of SCFAs and the modulation of the gut barrier. The gut microbiota is also thought to influence the immune system through the production of other metabolites, such as lipopolysaccharides (LPS) and peptidoglycans. LPS is a component of the cell wall of Gram-negative bacteria. It is known to have pro-inflammatory properties and to stimulate the immune system. Peptidoglycans are components of the cell wall of Gram-positive bacteria. They are also known to have pro-inflammatory properties and to stimulate the immune system. The gut microbiota is thought to influence the immune system through these metabolites by stimulating the production of pro-inflammatory cytokines and the activation of immune cells. The resulting autoantibodies are thought to be the cause of thyroid autoimmunity. The gut microbiota is a complex and dynamic system that plays a significant role in the development of thyroid autoimmunity. Further research is needed to fully understand the mechanisms by which the gut microbiota influences the immune system and the resulting autoantibodies.

Acknowledgements

None.

Conflict of Interest

None.

References

- Virili C, Fallahi P, Antonelli A, Benvenga S, Centanni M (2018) Gut microbiota and Hashimoto's thyroiditis. Rev Endocr Metab Disord 19(4):293-300.

*Corresponding author: Shoaie Saeed, Department of Diagnostic Laboratory Medicine, Laurentine University, Canada, E-mail: shoaie.s@gmail.com

Received: 03-May-2022, Manuscript No. JDCE-22-62628; Editor assigned: 06-May-2022, PreQC No. JDCE-22-62628 (PQ); Reviewed: 20-May-2022, QC No. JDCE-22-62628; Revised: 23-May-2022, Manuscript No. JDCE-22-62628 (R); Published: 30-May-2022, DOI: 10.4172/jdce.1000156

Citation: Saeed S (2022) Gut Microbiota Role in Thyroid Auto Immunity. J Diabetes Clin Prac 5: 156.

Copyright: © 2022 Saeed S. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

2. Umar H, Muallima N, Adam JM, Sanusi H (2010) Hashimoto's thyroiditis following Graves' disease. *Acta Med Indones* 42(1):31-55.
3. Knezevic J, Starchl C, Tmava Berisha A, Amrein K (2020) Thyroid-Gut-Axis: How Does the Microbiota Influence Thyroid Function?. *Nutrients* 12(6):17-69.
4. Wiebolt J, Achterbergh R, den Boer A, Suelmann B, de Vries R, et al (2011) Clustering of additional autoimmunity behaves differently in Hashimoto's patients compared with Graves' patients. *Eur J Endocrinol* 164(5):789-794.
5. Virili C, Stramazzo I, Centanni M (2021) Gut microbiome and thyroid autoimmunity. *Best Pract Res Clin Endocrinol Metab* 35(3):101-506.
6. Mori K, Nakagawa Y, Ozaki H (2012) Does the gut microbiota trigger Hashimoto's thyroiditis?. *Discov Med.* 14(78):321-326.
7. Zhao F, Feng J, Li J, Zhao L, Liu Y, et al (2018) Alterations of the Gut Microbiota in Hashimoto's Thyroiditis Patients. *Thyroid* 28(2):175-186.
8. Frohlich E, Wahl R (2019) Microbiota and Thyroid Interaction in Health and Disease. *Trends Endocrinol Metab.* 30(8):479-490.
9. Su X, Zhao Y, Li Y, Ma S, Wang Z (2020) Gut dysbiosis is associated with primary hypothyroidism with interaction on gut-thyroid axis. *Clin Sci (Lond).* 134(12):1521-1535.
10. Kohling HL, Plummer SF, Marchesi JR, Davidge KS, Ludgate M (2017) The microbiota and autoimmunity: Their role in thyroid autoimmune diseases. *Clin Immunol.*183:63-74.