

New link identified between inflammation and depression in type-1 diabetes

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Depression in type-1 diabetes patients is associated with higher levels of the inflammatory protein galectin-3, according to research published in *Endocrine Connections*. These findings suggest that galectin-3 levels may be useful for diagnosis of depression or may be a new target for treating depression associated with type-1 diabetes, which could lead to better patient care.

It is well established that people with both type-1 and type-2 [diabetes](#) have an increased risk of developing depression, a debilitating mental health disorder with potentially serious consequences, but the causes remain poorly understood. Galectin-3 is a key protein involved in promoting inflammatory immune system responses that are needed to repair tissue damage throughout the body, in response to injury or disease. However, elevated levels of galectin-3 have also been linked to an increased risk of inflammatory disorders including Alzheimer's disease and cardiovascular disease. Previous research has suggested that both depression and diabetes may be associated with increased levels of inflammation in the body but the role of galectin-3 has not been investigated in either condition.

In this study, Dr. Eva Olga Melin and colleagues at Lund University in Sweden measured the galectin-3 levels of 283 men and women, aged 18-59, with type-1 diabetes, for at least one year. Incidence of depression in these patients was self-reported and assessed using the Hospital Anxiety and Depression Scale-Depression subscale and possible confounding influences of lifestyle factors including heart disease,

smoking or poorly managed diabetes were accounted for in the analysis. The researchers found that both men and women with type-1 diabetes and depression also had significantly higher galectin-3 levels.

Dr. Melin comments, "We found that people with type-1 diabetes and depression had higher galectin-3 levels, yet no other diabetes-related metabolic changes could account for these elevated levels."

The team now plan to further investigate the link between type-1 diabetes, depression and galectin-3, as although these findings indicate that galectin-3 levels are associated with diabetes and depression, they are not sufficient to show any causative relationship. Larger, long-term studies are needed, as well as further analyses investigating how galectin-3 levels are linked to the increased risk of depression, what inflammatory processes are altered, and whether they can be targeted to treat [depression](#).

Dr. Melin says, "Depression is a common disorder with very serious and debilitating consequences, so these findings suggest that further investigating the role of galectin-3 could lead to improved diagnosis and maybe better treatment outcomes for patients in the future."

More information: Eva O Melin et al, Depression in type 1 diabetes was associated with high levels of circulating galectin-3, *Endocrine Connections* (2018). [DOI: 10.1530/EC-18-0108](https://doi.org/10.1530/EC-18-0108)

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