

## **Early life BCG vaccination protects against type 1 and type 2 diabetes, study finds**

Medha

A recent study in *Diabetes & Metabolism* has stated that getting BCG vaccination early in life is associated with a lower type 1 and type 2 diabetes risk from early to middle adulthood, but not latent autoimmune diabetes (LADA).

Bacillus Calmette-Guerin (BCG) in previous studies has been shown to limit autoimmunity and elevations in blood sugar. However, despite possible effects on other phenotypes later in life, these studies focused on type 1 diabetes among children. Considering this, Philippe Corsenac, Institut national de la recherche scientifique, Laval, Canada, and colleagues aimed to investigate the association between BCG vaccination and type 1, type 2, and LADA in adulthood.

For this purpose, the researchers linked a 1970-1974 birth cohort with the BCG vaccination registry and administrative health data of Quebec. 396,118 people aged 22-44 years were followed for the onset of diabetes mellitus (DM).

Incident DM cases were subjects with  $\geq 1$  hospitalization or  $\geq 2$  physician claims related to DM over a 2-year period. Individuals with  $\geq 1$  reimbursement of insulin, oral antidiabetic agent, or both were considered as type 1 diabetes, type 2 diabetes, and LADA cases. Hazard ratios (HR), adjusting for potential confounders were estimated using Cox proportional regressions.

Following were the study's key findings:

Forty-four percent of subjects were BCG vaccinated, 88% of these before age 1. For type 1 diabetes, no association was found before 30 years old, but vaccinated subjects had a lower risk of this phenotype after age 30 (HR<sub>adj</sub>= 0.65).

BCG vaccination was associated with a lower risk of type 2 diabetes (HR<sub>adj</sub>=0.85), whereas no association was observed for LADA (HR<sub>adj</sub>=1.30). Results did not differ by sex.

"Early life BCG vaccination is tied lower risks of both type 1 and type 2 diabetes from early to middle adulthood, but not of LADA," the authors wrote.

However, they add that there is a need for future studies to explore these long-term associations while distinguishing diabetes phenotypes.

Reference:

The study titled, "Early life Bacillus Calmette-Guerin vaccination and incidence of type 1, type 2, and latent autoimmune diabetes in adulthood," was published in the journal *Diabetes & Metabolism*.