

News and Views

Decline in Beta-Cell Function Among Adolescents with Type 2 Diabetes Mellitus

It is well known that beta-cell function declines over time in adults with type 2 diabetes mellitus (T2DM). The beta-cell dysfunction, initially characterized by impairment in the first phase of insulin secretion following glucose stimulation, advances to a decline in second phase insulin secretion as the disease progresses. But whether this decline in beta-cell function occurs in adolescents with T2DM is uncertain. Investigators prospectively compared beta-cell functioning over time between 39 adolescents with newly diagnosed T2DM (mean age, 15 years, body-mass index z-score, 2.4) and 32 obese adolescents without T2DM of comparable body-mass index, gender, and race (mean age, 14) during a 2-year period. Recently, researchers from Duke University School of Medicine, Durham North Carolina reported that adolescents with newly diagnosed T2DM had a 25% annual decline in beta-cell function despite receiving treatment. In this study, the results of which were first presented at the American Diabetes Association (ADA), the participants were adolescents with T2DM, more than half of whom were being treated with insulin whereas 80% were taking oral anti-diabetes medications. Beta-cell function in this study, assessed at baseline and 6, 12, and 24 months, was measured by insulin secretion in response to an intravenous glucose load adjusted for insulin sensitivity (disposition index). The authors observed that adolescents with T2DM had significantly higher levels of both insulin resistance and fasting glucose at baseline compared with controls. But during the two-year study, the study subjects experienced a significant increase in fasting glucose and a 25 percent annual decline in disposition index. Understandably, both these indicators remained unchanged among the controls.

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UK's most googled health issue of 2017

According to experts at Google Trends, "What is cancer?", "What is diabetes?", "What is blood pressure?", and "What is sepsis?" these were the UK's most googled health questions in 2017. So let us explain these terms. Cancer, as we know is growth of abnormal cells that are dividing in an uncontrolled way. These cancer cells can be in any part of the body and can sometimes spread to other organs and tissues (metastasis). Cancer starts when the genetic programming inside a cell makes it begin to grow and multiply too much. These bad programming instructions might be inherited or occur over a person's lifetime. Things that increase the risk of developing cancer include smoking, being overweight or obese, and eating an unhealthy diet. It is estimated that more than four in ten cancer cases could be prevented principally through lifestyle changes.

Blood pressure (BP), on the other hand is the pressure of blood flowing through the arteries. BP changes as heart beats which is why it is recorded as two values. Systolic BP is the higher number and reflects the force in the arteries when the heart is contracting and pumping out blood. Diastolic BP is the lower number, when the heart is relaxing and refilling with blood ready for the next pump. So what is normal BP? Normal BP reading is considered to be systolic BP between 120 and 80 mmHg, and diastolic BP between 90 and 60 mmHg. Readings consistently higher these BP levels this are unhealthy, and having untreated high BP can increase one's risk of developing serious health conditions such as heart attacks, stroke and kidney failure. High BP is a symptomless disease and the only way to know if one has high BP (hypertension) is to get it checked. When diagnosed, hypertension needs to be treated with lifestyle changes and medication to reduce the associated risks.

Then What is diabetes? It is a health condition where the amount of sugar in a person's blood is too high. There are two main types of diabetes - type 1 and type 2; the latter is the most common (~90% in the Indian subcontinent). People with type 2 diabetes may be able to control their

condition by being careful about what foods they eat and getting plenty of exercise, but they may need to take medication to manage their blood sugar levels. People with type 1 diabetes need to take insulin to control their blood sugar.

Lastly, what is sepsis? Sepsis, also known as blood poisoning, is a potentially life-threatening condition where the body reacts strongly to an infecting organism and starts attacking its own organs and tissues. Sepsis can happen

quite quickly and spotting its signs and getting treatment early can save lives. Initially it may feel a bit like having flu, a stomach upset or a chest infection. Fever may be there or not but one should never ignore symptoms even if there is no fever.

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<http://www.bbc.com/news/health-42416338>