

Risk management in diabetes.

Diabetes type 2 poses a multiple health risk, not only coronary heart disease but also kidney failure. Although keeping normal blood glucose (through drugs, external insulin injections or increased pancreatic insulin production) reduces kidney risk, it increases cardiovascular risk. There is a recently published paper comparing people who maintained tight glucose control (hbA1c) through drugs (and insulin) versus those who didn't. The results were that the tight glucose group had more heart disease! There are papers indicating that high serum insulin level ("hyperinsulinemia") is an independent heart disease risk factor! It was known since a long time ago. For example, [R.W. Stout studies](#) (Lancet 1969) demonstrated that arterial plaque is stimulated by insulin and the plaque tissue grows incorporating carbon from glucose (not from fat!). However, a conundrum every diabetic doctor is facing today, is that to maintain a normal glucose level in diabetes type 2 or in metabolic syndrome, on a high carbohydrate diet, a very high insulin level secretion (or injection) is required (or some equivalent drugs)! So, they tend to mitigate an immediate risk of their patients dying from high glucose complications (kidney failure, ketoacidosis), in the short time frame, by accepting on behalf of their patients an elevated risk of heart disease manifesting itself at some time in the future.

One has to keep in mind that a high insulin level may also be maintained by the pancreas itself, in some cases if it is strong enough and if it is stimulated by food or other factors to secrete insulin..

Conversely, a poor glucose control (without excess insulin) would render a patient much more vulnerable to kidney failure, peripheral neuropathies and eye problems, but less so to heart attacks! In the days before insulin, the main diabetic risk was from kidney failure, not from heart disease.

The key to reduce the overall risk in diabetes (type 2 and 1 (see Dr. Richard Bernstein's "Normal Sugar" book)) is to do both:

1) minimize the overall requirement for insulin

AND

2) normalize blood glucose level at all time (80-140mg/dl)

Stan (Heretic)