

Newsletter

28th February 2019

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We meet in the Diabetes Centre St. Richards Hospital Chichester for 7.30pm. Easy access for wheelchairs. All welcome.

Chichester & District DIABETES UK Group

Know Diabetes Fight Diabetes

Charity Number 215199

Patron Her Majesty the Queen

We were delighted to welcome 30 people to our first meeting this year when Dr Bosman talked about the Importance of Good Control and took questions from the floor.

Several people at the meeting were new to the group and promised to continue to support us.

Dr Bosman took questions from the floor to find out what people wanted to hear about.

Does everyone know what the HbA1c is? It is Glycosylated Haemoglobin. Haemoglobin circulates round the blood system in the red blood cells. Red blood cells last 120 days and the haemoglobin will last 120 days that's about 3 or 4 months. Glycosylation means that glucose is attached to a protein. We need some glucose, it's your body's storage mechanism for giving you energy, and you need energy for respiration which is what you do when you convert glucose into energy so there must be some glucose in the blood to get energy into the tissues. Over time the more glucose in the system the more it latches on to the blood and hence the HbA1c goes up. So there is an amount that we accept as normal and above that is excessive. The more glucose in the system the more proteins get glycosylated it latches on to all sorts of different proteins which results in the complications that we see. It affects the microcirculation and it affects the circulation to the nerves which then get damaged and you get neuropathy from changes in the circulation because the circulation is damaged. Likewise you can get changes in the blood

vessels in the eye that cause extra vessels to grow in the eye which cause haemorrhages. It can also cause heart disease. Glucose in excess is bad this is why Good control is important. There are other conditions that can affect your HbA1c i.e. if you have a blood disorder, anaemic, losing blood in the system or other conditions affecting the way it is measured.

If you have high blood sugars all the time your HbA1c will be high. If your blood sugars are high after a meal it will kind of affect it.

Q. If your blood sugars are low and then up and down would that affect a false low HbA1c.

A. No probably not because you have fluctuations overall. What tends to happen when people have low blood sugars they recover themselves with glucose to try to get the levels up and that drives the sugars up after the hypo so then have an effect on the recovery situation and that will affect the average. If your blood glucose levels are running a little high say for an hour after a meal this will not affect your control significantly. If it stays high for three or four hours after that meal then it will have a greater effect on your control and potentially a greater risk of complications.

Q. Would you advise taking sugar levels one hour, two hours, three hours after a meal and monitoring the results.

A. The monitoring really depends on the treatment you are on. You can monitor but if you have no way of doing anything about it then is very frustrating. If you can take the results to a healthcare professional and show how your sugar levels have raised it may indicate a particular

treatment at that time. So it might be that you need to take insulin or that the food that you are eating is not appropriate. I.e. better carb counting for that meal. Or if your sugar levels are high after a particular type of food you might decide that that food is not appropriate.

Q. My levels are high in the morning when I have not eaten anything for 12 hours.

A. There are lots of systems in place that can drive your blood sugar up in the morning. It's not simply about what you ate it might be that you went to bed with shocking blood sugars and you didn't check them before you went to bed. There are many other explanations. It might be that the body particularly in T2 diabetes might spill sugar at night time from the liver exactly when you do not need it. It's a perfect excuse for Metformin by the way. The reason for Metformin is we are trying to stop the liver from pumping out sugar when it shouldn't. Even a small amount of Metformin can make the difference.

Q. If you take a reading of five being the norm. What would you consider to be too high?

A. Again it all depends on the time of day.

Q. Early morning?

A. Too high is anything that is not a normal blood sugar by definition. Likewise I am not going to say to you that they have to be five every morning when I know full well that the treatments you are on you will not be able to keep to that. So we set a guide around five to six and a half or depending where

**Diary
Dates
Next
meeting**

**28th March
AGM
&
Guest
Speaker**
**

**25th April
Coping
with
diabetes
Psychologist**
**

**23rd May
Diabetes
Bariatric
Consultant**
**

**27th June
DSN who
works on
the wards**
**

**26th Sept
Consultant
Latest
insulins
and how
they work**
**

**24th October
Specialist
Vascular
Nurse**
**

**28th Nov
Social
Evening**

28th March AGM and there will be a discussion on DIY Looping.

FreeStyle Libre and CGM DVLA green light on the horizon.

Dr Bosman has asked to have feedback from the group on what they found useful.

What might be done better or subjects for the future.

Please email pauline.keeler@talk21.com your comments as soon as possible. Thanks

You are in your life and whether your goals are a bit more relaxed or depending on what treatments you are on. There is no point in me setting goals that I know you cannot achieve.

Q. I take hard physical exercise three times a week will the effect be to put my sugar level up or down?

A. There are very many responses it partly depends on what treatment you are on. If you are on insulin and you burn off the carbs you may go down on the other hand if you are doing a very active process this will put your sugar level up. So it might be in the short term it is low but in the long term it might be higher because you produce stress hormones which is a natural response. So in the short term it may be low but in the long term a bit higher. Exercise has an interesting biological affects, if you didn't deliver glucose to your muscles You would not be able to exercise. In a natural world if you are on a highly regulated treatment to keep your blood sugar down and you are exercising frantically and your muscles are starved of active glucose being pushed away by insulin for fat storage or whatever else so your muscles will be starved of glucose.

Q. So would that be better then take the metformin after exercise.

A. I think metformin is a different thing I would not worry about the metformin I would just take it as normal. It does not cause hypoglycaemia. The body has regulatory systems in place and metformin does not interfere with them.

Q. If the liver is producing too

much sugar in the night what are the typical symptoms of that?

A. Diabetes is a silent thing, it doesn't do very much. You are very unlikely from that pathology alone to get very high blood sugars. That isn't the only defect from T2 diabetes it is only one of a number of defects.

Q. Will it get worse as I get older?

A. Age and the pathology of the condition do vary with time. Talking about T2 diabetes there is a completely difference expectation to T1 diabetes. With T2 diabetes 90% of you would have T2 it is a progressive disease. Glucose levels in a person goes up over time slightly and the body compensates by producing more insulin to maintain them but then the insulin starts to go down because its production is less affective because it is being challenged a lot. An example: running a car at top speed all the time so blood sugar levels will go up. Over time your diabetes gets worse. The reason is because the pancreas gets more exhausted over time. So we therefore expect the need for more treatment over time. We try to use treatments that reduce the exhaustion of the pancreas if we can. Hence the reason for metformin being my first and favourite choice followed by some of the newer agents that don't generate insulin but make the body more sensitive to it or we try to get rid of the sugars in different ways by making you pee sugar in the toilet. There are various strategy's to help control the blood sugar by resting the pancreas relatively therefore trying to prevent progression of the condition over time.

Sulfonylureas on the other hand do encourage insulin production and they do have their indications but it is not my preferred in the majority of cases. These drugs stimulate the pancreas to produce more insulin in the short term but in the longer term the pancreas works less well. Then you need to go to insulin more. So T2 is a progressive condition you hear of people going on the Newcastle diet and stopping their diabetes for a few years for some in the early stages where the insulin has gone up. Losing and maintaining the weight loss takes the strain off the pancreas and puts diabetes into remission.

Maintaining this over a long term has not yet been proven to hold diabetes at bay. In certain situations its worth encouraging people to try it.

There comes a point in your diabetes when whatever you do you will still have diabetes. We see that in bariatric cases where you have had diabetes for five years or so. After the procedure the diabetes goes away quite quickly. For people who have had diabetes a lot longer than that they are likely not to reverse their diabetes.

For people with T2 diabetes the UKPDS study shows that over time people will progress from one treatment to two and then three showing that this is a progressive disease. Going on to insulin should not be seen as a punishment it is just part of the progression of the condition.

This is a much shortened version of Dr Bosman's talk we found it impossible to condense it onto two pages.