Summary of December 2011 Address

Guest Speaker: Professor John Carter AO, Professor of Medicine, Sydney University. Subject: “Diabetes and some of the other usual suspects…should we be worried?”

Introduced by David Greatorex, Professor Carter AO is a Clinical Professor of Medicine at Sydney University and Senior Visiting Endocrinologist at Concord, Hornsby and Sydney Adventist Hospitals. He was President of the Australian Diabetes Society 1992-1994, Chairman of the Diabetes National Action Plan 1994-1996, Chairman of the Commonwealth Ministerial Advisory Committee on Diabetes 1996-2000 and a member of the National Diabetes Strategy Group 2000-2005. He was made an Officer of the Order of Australia in 2000 for “Services to Diabetes”.

Professor Carter AO introduced his subject by indicating that he wanted to show us the nature of diabetes, the extent of the problem and what is relevant. Some of the questions that can be asked are- is it really a problem? ; Is it more of a problem in our member age group? ; Are Caucasians less likely to be affected than indigenous Australians or Non English speaking or culturally and linguistically diverse Australians? ; Can and should we do something about it?

Diabetes is a group of metabolic diseases in which a person has high blood sugar, either because the body does not produce enough insulin, or because cells do not respond to the insulin that is produced. This high blood sugar produces symptoms of frequent urination, increased thirst or increased hunger. There are two main types of diabetes: Type 1 which results from the body’s failure to produce insulin and requires the person to inject insulin; and Type 2 resulting from insulin resistance where cells fail to produce insulin properly and can also include absolute insulin deficiency.

In Australia the incidence of diabetes is moving to epidemic proportions and the older a person the more likely they will contract it and more so if male. From Professor Carters’ presentation we are informed that as estimated for 2010 there are approximately 1.3 million Australians with diabetes. The prevalence of diabetes among Australian residents increases substantially from age 45 being 6.2% to 23.6% from age 75+. Whilst there are significantly more males than females in the 55-64 age group, this changes to an almost equal number of males and females for the 75+ age group.

Before diabetes there is a section of people in between known as pre-diabetes where the impaired handling of glucose levels by the body has not reached a high enough level to become diabetes. It is diagnosed with a blood test. Diabetes arises when the fasting blood glucose level is >/= 7.0 or the 2hr value is > 11.0 mmol/L. Of those persons with pre diabetes five to ten percent will develop diabetes each year. Pre diabetes does carry risks

Persons with prediabetes actually have the same complications as persons with diabetes—only less frequently. They run the risk of developing diabetic eye disease, nerve damage, and early diabetic kidney disease with excess protein in the urine. Patients with prediabetes are also thought to already have an increased risk of heart and blood vessel disease. There are an equal number of people in each category of diabetes and prediabetes and 50% of people with diabetes do not know that they have the condition. It took the Australian government many years during the late eighties to mid nineties to realize that funding for research and treatment of diabetes was essential. Graham Richardson in 1991 advised Professor Carter AO that for support to come it would have to be subject to discussion on the John Laws radio program. Support came in 1996 through the Minister for Health, Michael Wooldridge. It turned out that his wife had Type 1 diabetes.

Type 1 diabetes is usually found in children or young adults who are generally thin not overweight. An autoimmune process destroying the ability of the pancreas to make insulin causes it. It is not caused by anything parents or grandparents have done! An insulin injection is required for treatment in addition to adhering to an appropriate diet. Until 1921-22 insulin was not available but was developed through experiment on diabetic dogs and then became available for injection into affected children. The result was dramatic and insulin was considered a medical miracle. Members can refer to Professor Carter’s slides on the club website for before and after photographs showing the dramatic changes from insulin treatment.
Type 2 diabetes usually develops in adults over the age of 40 years but more and more teenagers are developing the condition. Its cause is primarily due to lifestyle factors particularly being overweight or obese. Genetics is also a factor but the person must have the predisposing genes. Type 2 presents a dual problem in that there is both a resistance to the action of insulin and a progressive reduction in the amount of insulin produced by the pancreas. So why the fuss? Both forms of diabetes increase the risk of long-term complications. The major long-term (10-20 years) complications relate to damage to blood vessels e.g. heart disease, stroke. Through damage to the small blood vessels people can suffer vision impairment, kidney issues leading to dialysis and nerve damage commonly causing numbness, tingling and pain in the feet. There is 4 times the risk of having a heart attack if you suffer from diabetes. Importantly there is an increase in diabetes sufferers tending to epidemic proportions.

Professor Carter AO asked - what should our doctor and we be trying to achieve? We need to maintain our blood glucose as close to the normal range as possible, maintain normal weight or lose around 7%, maintain normal blood pressure or no more than 140/90 less if diabetic, control cholesterol, exercise and stop smoking. All factors must be addressed. We should all have an annual fasting blood sugar test.

Can diabetes be cured and if not when will it be cured? For Type 1 diabetes there is no cure at present. Various forms of cell transplants (Islet, Pancreas, Stem) have been performed using suppression drugs but they have all headed back to where they were having been rejected by the patient’s body. Stem cell treatment appears the best opportunity but at present needs more research and development. Type 2 diabetes can be controlled/prevented through maintenance of a proper lifestyle leading to appropriate levels of weight and blood pressure and addressing the other risk factors discussed above. How well it is controlled depends on the individual and experience has shown that it is very hard for the young to control Type 2 diabetes.

In conclusion Professor Carter AO discussed deep vein thrombosis (DVT) connected with long haul flights and strongly recommended that we wear stockings to reduce the symptoms of DVT as the Cochrane Review of 2010 found that people who wore stockings had much less discomfort and swelling in their legs (oedema) than those who did not wear them.

After answering a number of questions Professor Carter AO was thanked by Ray Hyslop for his entertaining and stimulating talk with Ray reminding us what a privilege it was to hear at a lay level such informative and educational information on a medical condition that will have impacted on people that we know or know of.