DiabetesWatch

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ARE DIABETICS ALLOWED ALCOHOL?

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"Ang inumin ng tunay na lalaki" - - - according to commercials, - - - is beer. Commercials imply (suggest?) that drinking (not water, of course, but alcoholic beverages) is a sign of masculinity. These advertisements also give the impression that camaraderie, friendship, and good will can best be shown by having a drink with friends (*"Iba na ang may pinagsamahan - - - magkasa tayo!*) To celebrate anything at all, offer a toast. Drinking, therefore, especially to the *'macho guapito"* population, is very much a social symbol. Well, what about the *"macho guapito diabetico?"* Is he left out of the social circle because his doctor forbade him to take alcoholic beverages? Or does he still keep his regular "night-out with the boys" despite the doctor's advice . . . and close his mind to the possible consequences?

Drinking alcoholic beverages is discouraged among diabetic individuals for very important reasons. Drinking, especially in uncontrolled amounts, will have adverse effects whether one is non-insulin dependent or insulin dependent. For the pregnant diabetic, she has a double reason to be doubly careful. The diabetic taking oral hypoglycemic agents has reduced alcohol tolerance and experiences palpitation and flushing after alcohol ingestion. In the insulin dependent type or those on insulin therapy, the real danger is that hypoglycemia (low blood glucose) may be precipitated. Because of alcohol, the liver might be unable to release glycogen which will be converted into glucose so that hypoglycemia results. The hypoglycemia may be unrecognized and therefore go untreated because the symptoms are similar to those of intoxication. Moreover, alcohol provides high calories but does not contribute essential nutrients. Hence, caloric intake may be excessive but nutrient intake is deficient. The inclusion, therefore, of alcoholic beverages in the diet of a diabetic of whatever type and whatever sex is definitely *discouraged.*

Sometimes, however, the person's position in the company or his occupation would require *occasional* drinking. This may be all right if and when his attending physician will allow him to do so. Some amount of alcohol may be allowed if the patient has GOOD CONTROL of his blood sugar. Even so, it is recommended that one's intake be limited to a minimal amount on a daily basis. This means that if one's doctor were to allow him some amount of alcohol allowance, his daily "budget" may NOT be accumulated so that he can take it in a single day. To give one an idea as to how much is "minimal," a person on an intake of 1,800 calories daily will be allowed to take 1½ ounces of brandy. Usually, the calories contributed by alcohol is deducted from the fat allowance because alcohol supplants fat for energy production. A table is here provided to give further information on the more common drinks available. Before you start recomputing your calories to include alcoholic beverages, ASK YOUR DOCTOR . . . 'coz after a drinking spree you might not be able to speak with him anymore!

CALORIE VALUE OF ALCOHOLIC BEVERAGES

Beverages	Average Portion	Weight Gm.	Calories	Carbohydrate Gm.	Alcohol Gm.
Wines					
Champagne	4 oz. glass	120	84	3	11
Muscatel or port	3½ oz. glass	100	158	14	15
Sauterne	3½ oz. glass	100	84	4	10
Sherry, domestic	2 oz. glass	60	84	5	9
Table type	3½ oz. glass	100	85		10
Vermouth, French	3½ oz. glass	100	105	1	15
Vermouth, Italian	3½ oz. glass	100	167	12	18
Alcoholic Beverages:					
Ale, mild	8 oz. glass	230	98	8	9
Beer, average	8 oz. glass	240	114	11	9
Benedictine	cordial glass	20	69	7	7
Brandy, California	brandy glass	30	73	11	11
Cider, fermented I	6 oz. glass	180	71	2	9
Cordial, anisette	cordial glass	20	74	7	7
Creme de menthe	cordial glass	20	67	6	7
Curacao	cordial glass	20	54	6	6
Daiquiri	cocktail glass	100	122	5	15
Eggnog, Christmas	4 oz. punch glass	123	335	18	15
Gin, Rickey	4 oz. glass	120	150	1	21
Gin, dry	1 jigger, 1½ oz.	43	105	11	15
Highball, average	8 oz. glass	240	166	11	24
Manhattan	cocktail glass 3½ oz.	100	164	8	19
Old Fashioned	4 oz. glass	100	179	4	24
Planter's punch	3½ oz. glass	100	175	8	22
Rum	1 jigger, 1½ oz.	43	105	11	15
Tom Collins	10 oz. glass	300	180	9	22
Whiskey, rye	1 jigger, 1½ oz.	43	119	11	17
Scotch	1 jigger, 1½ oz.	43	105	11	15

Values taken from Church. C.F., and Church N N.; Food Values of Portions Commonly Used. 10th ed. Philadelphia, Lippincott, 1966.
**Alcohol yields 7 calories per gram.*

Baguio-Benguet Chapter, PDA

The officers of the Baguio-Benguet Chapter of the Philippine Diabetes Association were inducted into office last February 1 at the Rocio Inn, Baguio City, by PDA President Dr. A.D. Litonjua.

The officers include: Dr. Guadalupe Juguilon, president; Dr. Anastacio Aquino, vice-president; Ms. Generosa Carbonell, secretary; Dr. Lourdes Tabora-Subido, treasurer; and Dr. Francis Floresca, PRO.

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Oral Hypoglycemic Agents (OHA):

. . .how they work to lower your blood glucose.

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When a patient with non-insulin dependent diabetes mellitus (NIDDM) cannot achieve normal or near normal plasma glucose levels with dietary modification and exercise, intervention with oral hypoglycemic agents (OHA) is considered the next step in the treatment of these patients.

There are several considerations that the physician must take into account in the choice of OHA that would best suit a patient. These are: age and weight of the patient, severity of blood glucose elevation, severity of symptoms, presence or absence of concurrent diseases and conditions (e.g. infection, trauma, acute myocardial infarction).

There are two major types of oral hypoglycemic agents available in the country at present – the sulfonylureas and biguanides. How do sulfonylureas (so named because of their similarity to sulfonamides) effect blood glucose lowering in patients? The mechanism of action is complex. These agents affect the pancreas as well as extra-pancreatic cells (such as muscles and fat cells) in the body. These effects combine to produce the glucose lowering action of these drugs. Acutely, they stimulate the beta cells of the pancreas to secrete more insulin. After several months of therapy, the insulin levels return to the low pre-treatment levels although glucose in the blood remains improved. Why the blood glucose level continues to improve in spite of the return of insulin levels to pretreatment value is due to the effect of the sulfonylureas on the extra-pancreatic cells. Sulfonylureas reduce the rate of glucose production from the liver (thus lessening the liver's contribution to the blood glucose levels) and increase the number of insulin receptors in cells which improve glucose control by improving insulin effectiveness at the target cells.

SULFONYLUREAS

	Recommended Daily Dose	Duration of Action (hours)
First generation		
Tolbutamide (Orinase, Rastinon)	1500-3000 mg	6-12
Tolazamide (Tolinase)	200-1000 mg	12-24
Acetohexamide (Dimelor)	250-1500 mg	12-24
Chlorpropamide (Diabenese)	100-500 mg	up to 60
Second generation		
Glipizide (Glucotrol, Minidiab)	2.5-40 mg	2-24
Glyburide, Glibenclamide (Euglocon, Daonil, Micronase, Diabeta)	2.5-30 mg	10-24
Gliclazide (Diamicron)	40-320 mg	12-18

Oral hypoglycemic agents are used only if it is clear that there are no contraindications to their use. Oral agents should not be used during pregnancy and lactation because the effects on the fetus or newborn are unknown. Similarly, OHA's are not recommended for the treatment of patients with concurrent diseases including infection, trauma, heart attack and so on. It is also contraindicated in patients allergic to sulfonylurea compounds. The patients most likely to improve well to sulfonylurea drugs are those who have onset of diabetes mellitus after 40 years of age, have had diabetes mellitus for fewer than 5 years, are normal weight or overweight and those who have never received insulin or have been controlled on less than 40 u/ day.

The table above summarizes the usual dose and duration of action of several sulfonylureas currently available throughout the world. The most popular are the second generation sulfonylureas. These agents appear attractive because they are given in doses 1/100 those of the first generation drugs, which fact is associated with diminished rate of side-effects. Gastro-intestinal intolerance, water retention and prolonged hypoglycemic effects do not occur.

Biguandes are believed to act by retarding absorption of nutrients from the intestines, decreasing glucose production from the liver, and facilitating insulin binding to receptors on insulin target tissue. They also suppress appetite. Metformin (Glucophage) is the only biguanide used in the Philippines.

PDA - Baguio

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Members of the Board of Directors include: Dr. Danilo Cacanindin, Dr. Esperanza Bolislis, Dr. Rommel Carantes, Dr. George Pangwi, Ms. Aurora Tenefrancia, and Ms. Delia Bayasen.

The personnel of the chapter's Diabetes Clinic underwent training by the teaching staff of the Diabetes Clinic, Makati Medical Center. Formal opening of the Clinic which is located at the Dr. Efraim C. Montemayor Medical Center in Baguio City is slated for May 12.

?? WHY SO MANY INSULINS??

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After the discovery of insulin, there came about many complexities in its clinical use in diabetes mellitus. Several factors led to the development of different types of insulin.

In the early insulin era, SURVIVAL was the primary concern and all that mattered was the AVAILABILITY of INSULIN for therapeutic use. The earliest preparations were obtained from beef pancreas and were provided to patients in powder or tablet form. They were dissolved in water and immediately injected since the effect of the solution lasted for only a few hours.

Over the years, the threat to life and health as a result of the long term complications of diabetes became more evident and were attributed to poor metabolic control. Extensive efforts were then made to obtain longer acting preparations in the hope that therapeutic programs maybe made easier for patients' acceptance and compliance (such as the single daily injection). However, it became evident that single injection of insulin daily did not mimic the secretion of insulin by the pancreas and this led to poor metabolic control.

The combination of a short acting insulin and an intermediate acting insulin given twice daily became commonly used. Lately, the use of multiple injections or continuous administration by insulin pumps mimicked the normal meal time insulin response and maintained normal basal insulin levels in between meals. Thus, the birth of insulins with specific time courses of action. The short acting insulins include Actrapid, Regular and Velosulin. Intermediate acting insulins include NPH, Monotard, Protophane, Insulatard. Long acting insulins are exemplified by Ultratard and Ultralente.

Then came the problem of insulin allergy. This manifested in the diabetic requirement of an unusual amount of insulin as a result of antibody formation to the injected insulin. Workers began to look at the insulin preparation more closely in terms of purity and specie. An improvement over standard purification procedure include the use of the more sophisticated methods of gel filtration, molecular sieving and ion exchange chromotography. This led to the birth of highly purified and monocomponent insulins which are practically devoid of impurities such as proinsulin, pancreatic polypeptide, somatostatin, glucagon and vasoactive intestinal polypeptide. These insulins are exemplified by Actrapid MC, Monotard MC, Velosulin, Insulatard.

Until recently, all commercially available insulins were obtained from beef and pork pancreases. The standard insulins (NPH and Regular) were a mixture of beef and pork insulin, although mono specie pork or beef insulin were available for use in certain cases. A look at the amino acid sequence of beef, pork and human insulins (Table 1) shows that beef insulin differs from human insulin by 3 amino acids and that pork insulin differs from human insulin by only 1 amino acid. Thus pork insulin is less antibody stimulating than is beef insulin. These differences in amino acid sequence as well as the impurities of the commercial insulin preparation have been held responsible for the immunologic problems.

Human-like insulins, produced from enzymatic conversion of pork insulin to human insulin or by biogenetic engineering (recombinant DNA technique) have reduced the level of anti-insulin antibodies when substituted for animal insulin. Human insulin now seems to be the preferred insulin for any of the immunologic problems related to insulin therapy. Examples of human insulins are Monotard HM, Actrapid HM, Ultratard HM, Humulin R and Humulin N.

And finally the factor of a better quality of life offered to the diabetic patient by a knowledgeable physician who has a wide selection of insulin armamentarium that best suits the life style of the diabetic without compromising metabolic control, at the same time allowing for the patient's active participation in the management of his disease.

There will be more than one insulin preparation for as long as there are insulin users and prescribers.

AMINO ACID POSITION

	A CHAIN		B CHAIN	
	8	9	10	30
HUMAN	Thr	Ser	Ileu	Thr
PORK	Thr	Ser	Ileu	Ala
BEEF	Ala	Ser	Val	Ala

Table 1. Species Differences of Insulins.

Risk Factors in the Diabetic Kidney

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Knowing and controlling the factors that initiate or aggravate renal complications may prevent the occurrence of or minimize the progression of an already existing kidney disease in the diabetic. The four most important factors are uncontrolled blood glucose, urinary infection, high blood pressure and excessive protein intake.

There is convincing data that the abnormal sugar metabolism in the diabetic causes the diabetic kidney disease called **glomerulosclerosis**. In both animals and humans, transplanting the diabetic kidney into the nondiabetic results in resolution of the diabetic kidney disease. The earliest abnormality in renal function in the diabetic is up to 150% hyperfunction (increased work) of the nephrons, the functioning units of the kidneys, due to uncontrolled blood glucose; this is presumably harmful as shown in both animal and human models of kidney disease where prevention of hyperfunction of the remaining nephrons results in remarkable decrease in renal damage. Strict control of blood glucose both by diet and with medication is therefore a must in the diabetic.

The diabetic is predisposed to urinary infection. Often, particularly if the infection is in the kidneys, the infection is not accompanied by symptoms. The diabetic therefore should have a frequent urinary check-up to monitor for urinary infection as prompt and adequate treatment is most effective.

High blood pressure is much more common in the diabetic for three important reasons, namely, (1) the atherosclerotic (hardening of the walls) complications of diabetes result in stiffening and narrowing of the arteries, (2) the diabetic renal complications predispose the patient to high blood pressure, and (3) high blood glucose raises blood volume and blood pressure. As a result, the diabetic is commonly affected by the renal complications of high blood pressure called **nephrosclerosis**. There is ample evidence that strict control of blood pressure is extremely useful and that a specific group of antihypertensive medications called angiotensin converting enzyme inhibitors (ACE inhibitors) are more effective than other types of drugs in minimizing renal damage due to high blood pressure. When renal failure is present or in the patient with a tendency to retain potassium, ACE inhibitors (available locally as Capoten or Renitec) might increase serum potassium; therefore, high potassium foods particularly bananas and citrus fruits should be avoided when these drugs are taken. Low salt diet, avoidance of alcoholic drinks and control of blood glucose are important adjuncts in the control of high blood pressure. Low salt diet additionally reduces nephron hyperfunction.

High protein intake results in hyperfunction of each of the functional units of the kidneys; as mentioned above this hyperfunction is deleterious to the kidneys. This is particularly important when kidney disease is already present as has been proven in both animal and human models of kidney disease which have demonstrated marked decrease in renal damage when protein intake is diminished. Early reduction in protein intake is therefore advisable even in the early stages of kidney disease in the diabetic. This means reduction in intake to about half of normal of the following important sources of protein: meat of pork, meat of beef, meat of fish, and meat of chicken.

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LETTER

My name is Ann, I am 57 years old. I have been a diabetic for 21 years, 19 years on tablets, 18 months on Insulin. I have been married to REGINALD for 38 years. We have 3 daughters, 3 sons and 14 grandchildren. My family are my life. I love sewing, knitting etc. Sewing used to be job full time. I am also disabled in my right foot and leg. I wear surgical footwear and get about in my own sweet way. I love my family and enjoy making soft toys for family and friends. I would love pen-pals from all over the world any age male or female. All letters will be answered.

Please write to me someone.

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