Care and treatment of the elderly patient with

Diabetes Mellitus

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15% of the nursing home population has DM

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16 million Americans have Diabetes Mellitus (DM) - half don't know it! Diabetes is a serious disease that can lead to blindness, heart attack, stroke, kidney failure, amputation and death. It is the fourth-leading cause of death by disease in the United States killing more than 169,000 people each year. (American Diabetes Association)

DM contributes to about 50% of heart attacks, 75% of strokes, 30% of kidney dialysis patients and 75% of diabetic patients eventually die of vascular disease. It is the leading cause of non traumatic amputations, and it is the leading cause of new blindness.

DM is especially prevalent in the elderly. Among people over 65 years of age, 8.6% have type two diabetes. This figure includes 15% of the nursing home population. Hispanic, African-American and some Native American populations have a higher rate of diabetes than does the Caucasian population. Some Native American populations, such as the Pima, have adult diabetes rates of 20% to 65%.

Economic costs directly related to diabetes are estimated to be at least $20 billion annually. This number continues to rise due to our aging population and to increasing medical costs. Half of all persons with DM who are over 65 years of age are hospitalized each year.

Untreated DM can lead to coma and death. It was not until the isolation and eventual production of insulin in 1921, by Canadian physicians Banting and Best, that made it possible for persons with this disease to lead a normal life.

DM is an incurable disease

Diabetes Mellitus is a chronic disease of either not enough insulin (insulin deficiency) ***or*** the inability to use available insulin (insulin resistance) and is characterized by disturbances in carbohydrate, protein and fat metabolism.

DM is an incurable disease but symptoms can be alleviated and life prolonged with adequate treatment.

It results from a failure of the pancreas to secrete any or enough insulin (it is the beta cells of the islets of Langerhans located in the pancreas that produce and secrete insulin).

It may also be due to an inability of peripheral tissues to use the insulin produced by the pancreas (endogenous insulin).

In most cases it is the result of a genetic disorder, however DM can also be caused by inflammation, infection, cancer, or surgery of the pancreas, or from age-related changes in insulin levels, insulin release, decreased peripheral effectiveness to insulin or a combination of these factors.

Insulin or Non Insulin Dependent?

The two major forms of diabetes include:

- **Insulin dependent diabetes mellitus** (IDDM) also known as Type I or Juvenile is characterized by the destruction of pancreatic beta cells. IDDM usually occurs before age 25 but may develop in older adults It is thought that a combination of genetic, immunologic and environmental factors contribute to the development of IDDM.

Although people do not inherit IDDM, they do inherit a predisposition to develop the disease. There is also evidence that an autoimmune response resulting in destruction of the beta cells can also be triggered by external (environmental) factors such as viruses or toxins as well as through genetic triggers. The patient with IDDM will require injections of insulin (exogenous insulin) and dietary management to achieve control. And unless specifically contraindicated, regular exercise should be incorporated since exercise can increase peripheral acceptance of insulin.

Approximately 5 to 10% of all diabetics have IDDM.

- **Non Insulin dependent diabetes mellitus** (NIDDM) also known as Type II or adult-onset and is characterized by impaired insulin secretion and/or ineffective use of insulin (insulin resistance) in the peripheral tissues. NIDDM usually develops after the age of 40, is common in older adults, and is more prevalent in obese adults

Although the exact mechanism that leads to impaired insulin secretion and insulin resistance is