Diabetic Complications Part III

By Philip R Nicol M.D.

In the final part of my series on the common diabetic complications, I will review those problems that are caused by damage to nerve tissue, known collectively as Diabetic Neuropathy.

As is the case with diabetic nephropathy and diabetic retinopathy, the culprit in nerve damage is constant exposure to abnormally high blood sugars. The structure of the protein that makes up nervous tissue is altered over the course of many years and this interferes with the normal functioning of the nerve. Impulses are conducted slowly, irregularly, or not at all. The symptoms that a patient experiences, depend upon the area supplied by the damaged nerve. Let's look at some of the common problems that occur.

The nerves that bring sensation from the feet and lower legs are very long nerves. Their length appears to be one of the reasons that make them prone to early damage. In a condition known as diabetic peripheral neuropathy, various combinations of cold sensation, pins and needles, shooting pains and numbness develop over a period of many years. These feelings begin at the feet and, over time, move gradually up the leg. Usually, the abnormal feelings are symmetrical in both legs. The level can reach all the way up to the top of the legs and, in extreme cases, can begin in the fingers and move up the arms. When a patient achieves good blood sugar control, the symptoms usually stop progressing up the legs. In some cases, the process will reverse and normal sensation will return in a sequential fashion moving down the legs, but that typically takes years to occur. During the years that the foot is without proper sensation, it is at risk for serious injury from minor traumatic episodes such as blisters.

Another common situation is known as "entrapment neuropathy". Many of you have heard of "carpal tunnel syndrome". One of the nerves supplying the hand muscles, passes through a tunnel between some of the bones in the wrist. Fibrous tissue can build up around the nerve in the carpal tunnel, compressing the nerve, resulting in numbness and tingling and loss of function. Surgical relief of the pressure on the nerve relieves the symptoms. A similar situation occurs in the ankle (tarsal tunnel syndrome) and at the elbow (ulnar nerve entrapment).

The gastrointestinal tract is another common site where diabetic nerve damage is found. If the nerves of the stomach and esophagus are involved, problems may include reflux, nausea, vomiting and delayed emptying of the stomach. These can play havoc with a person's blood sugar control, as it becomes very difficult to balance carbohydrate input with insulin dosage under these circumstances. If the nerves of the colon are involved, diarrhea or constipation are the complaints.

The genitourinary tract is often a target of nerve damage. Various bladder emptying problems are seen in both men and women. Erectile dysfunction is a common complaint of diabetics.

The nerves supplying the cardiovascular system may be damaged by prolonged exposure to high sugars. This can produce alterations in heart rate such as abnormal slowing, leading to dizziness and fainting spells. Some longstanding diabetics develop a condition called "orthostatic hypotension". The patient's blood pressure drops more than usual when transferring from the sitting to the upright position, producing profound dizziness and weakness.

The common solution to all of these complications is emphasizing prevention rather than cure. If blood sugars can be maintained within reasonable levels for many years, then it is possible to prevent the development of most, if not all, of these potentially disabling problems.

Dr Philip Nicol is the Director of ***The Diabetes Center****, the only medical practice in the region devoted solely to the care of diabetics. Dr Nicol has received recognition from The Diabetes Physician Recognition Program, a joint program of the NCQA and ADA, for the period March 2005 through February 2008, for providing quality care to diabetic patients. The Center offers free, no obligation screening for diabetes and pre-diabetes Monday-Friday. To contact Dr Nicol, or to schedule a free screening, call 843-293-8400.*