Diabetic Amyotrophy

What is diabetic amyotrophy?

Diabetic amyotrophy is a nerve disorder which is a complication of diabetes mellitus. It affects the thighs, hips, buttocks and legs, causing pain and muscle wasting. It is also called by several other names, including proximal diabetic neuropathy, lumbosacral radiculoplexus neurophagy and femoral neurophagy.

What is diabetic amyotrophy like?

The main features of diabetic amyotrophy are:

- Weakness of the lower legs, buttocks or hip.
- Muscle wasting, usually in the front of the thigh, which follows within weeks.
- Pain, sometimes severe, usually in the front of the thigh but sometimes in the hip, buttock or back.

Other features which occur in some (but not all) patients are:

- Altered sensation and tingling in the thigh, hip or buttock, which tends to be mild in comparison to the pain and weakness.
- In about half of patients there is a co-existing distal neuropathy, meaning that sensation in the nerves of the lower legs and feet may be separately affected by this condition (which is the most common form of diabetic neuropathy). See separate leaflet called Diabetic Neuropathy for more details.
- Weight loss occurs in about half of those affected.

Symptoms generally begin on one side then spread to the other in a stepwise progression. The condition may come on quickly or more slowly and usually remains asymmetrical (i.e., the two sides of the body are unequally affected) throughout its course. About half of patients also have distal symmetrical polyneuropathy, so that the sensation in their feet and toes is also affected.

The condition tends to last several months but can last up to three years. Over this time it usually recovers, although not always completely. During its course it may be severe enough to necessitate wheelchair use.

Pain subsides well before the muscular strength improves. This may take months and mild-to-moderate weakness may continue indefinitely. Some patients also develop associated pain or weakness in the arms, chest and upper back.

What causes diabetic amyotrophy?

Diabetic amyotrophy is thought to be caused by an abnormality of the immune system, which damages the tiny blood vessels which supply the nerves to the legs. This process is called microvasculitis. Its occurrence does not seem to be related to the duration or severity of the associated diabetes. However, it occurs only very rarely in patients without diabetes. It is therefore thought that although having raised blood sugar does not directly damage the nerves, it may contribute in some way to the process of damage.
How common is diabetic amyotrophy?

The condition affects around 1 in 100 people with type 2 diabetes and around 3 in 1,000 people with type 1 diabetes. This is uncommon by comparison to peripheral neuropathy, which 50% of people with diabetes experience to some degree.

The condition usually affects patients over the age of 50 years, although younger patients can be affected. The condition can itself be the first sign that you have diabetes.

How is diabetic amyotrophy diagnosed?

If your doctor suspects that you have this condition it is likely that you will be referred to a neurologist or diabetes specialist for further tests.

The doctor will examine you, looking for muscle weakness and wasting and for changes in your leg reflexes. He or she will check the sensation in your legs. If you also have peripheral neuropathy then this may be markedly altered, although in pure diabetic amyotrophy it is often unchanged.

Blood tests will be performed to check for vitamin deficiencies; also, your diabetic control will be reviewed. other possible tests include:

- Lumbar puncture to look for signs of inflammation in the fluid around the spinal cord.
- Nerve conduction studies will check the workings of the nerves to your legs.
- An MRI scan of your lower back may be done to rule out compression of the nerves around the spine.

How is diabetic amyotrophy treated?

Treatment mainly consists of maintaining the best possible control of your diabetes, together with a very active programme of physiotherapy. It is very important to keep muscles working as much as possible, to minimise wasting and improve the speed and degree of recovery.

Improving lifestyle habits, such as maintaining a good diet and avoiding smoking, are likely to be helpful.

Medications are prescribed by doctors for the pain of diabetic amyotrophy. This type of pain, which is referred to as neuropathic pain or nerve pain, often responds less well to conventional painkillers like paracetamol. Doctors often prescribe specialist nerve pain treatments, including amitriptyline, antidepressants and antiepileptic medicines.

Steroid medicines and immunosuppressant medicines have recently been used to help speed recovery. However, as yet there is not enough evidence to be certain that this treatment is always effective.

The duration of treatment varies with the course of the condition and the amount of nerve damage.

What is the outlook for patients with diabetic amyotrophy?

The outlook is usually good. Most patients recover well, although there may be some residual symptoms. The chances of making a good recovery - and remaining well (as the condition can relapse) - are improved by maintaining good diabetic control.

How do I prevent diabetic amyotrophy?

The best way to prevent the development of this condition, as for many of the complications of diabetes, is to:

- Avoid smoking.
- Eat well but sensibly.
- Maintain a healthy body weight.
- Most importantly, retain as tight a control of your diabetes as is possible.
Diabetic amyotrophy can still occur. However, it is likely that recovery will be faster and easier if these elements are already in control.

Further help & information

Diabetes Lifeline

Diabetes Support Forum UK

Diabetes Research & Wellness Foundation

Diabetes UK
Wells Lawrence House, 126 Back Church Lane, London, E1 1FH
Tel: (Helpline) 0345 120 2960
Web: www.diabetes.org.uk

Further reading & references

- Nagsayi S, Somasekhar C, James CM; Diagnosis and management of diabetic amyotrophy: Endocrinology: GM Journal, June 2010

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