

## New Treatments for Diabetic Neuropathy

Diabetic painful neuropathy (DPN) causes painful symptoms in 30% of diabetes patients and has an association with CVD mortality. Risk factors for DPN include hypertension, smoking, elevated triglycerides, elevated cholesterol, a high BMI, a high HbA1c, and the duration of diabetes (Tesfaye et al, *NEJM* 2005). In addition to the pain of DPN, the many serious sequelae include constipation, erectile dysfunction, incontinence, foot ulceration, infection, amputation, falls, and a reduced quality of life. Prior to 2003, tricyclic antidepressants, serotonin reuptake inhibitors, carbamazepine, gabapentin, tramadol, oxycodone, capsaicin, and acupuncture were commonly used to treat DPN, but additional medications have recently been studied. Solomon Tesfaye MD FCRP of Royal Hallamshire Hospital in the UK gave a comprehensive overview of these new pharmacological treatments, and the following table contains data from randomized, placebo-controlled trials published from 2004-2006 that demonstrated effectiveness in DPN:

Agent	Daily Dose	p-value	Reference
Duloxetine	60-120 mg	<0.001 vs. placebo	Goldstein et al, <i>Pain</i> , 2005; 116(1-2):109-118.
Venlafaxine	150-225 mg	<0.001 vs. placebo	Rowbotham et al, <i>Pain</i> 2004; 110(3):697-706.
Pregabalin	300 or 600 mg	Fixed dose regimen: p=0.002 vs. placebo  Flexible dose regimen: p<0.001 vs. placebo	Freyenhagen et al, <i>Pain</i> 2005; 115(3):254-263.
Gabapentin/ morphine combination	2400 mg gabapentin + 60 mg morphine	<0.05 vs. placebo, gabapentin alone, and morphine alone  Synergistic effect is better than either agent alone.	Gilron et al, <i>NEJM</i> 2005; 352(13): 1324-1334.

Additional studies with topiramate, oxcarbazepine, and sodium valproate did not show consistent, significant clinical benefit.

Although some agents appear promising, many patients with DPN continue to suffer from uncontrolled pain. "DPN remains difficult to treat although we now have newer agents with fewer side effects," summarized Dr. Tesfaye. He advised clinicians to titrate carefully any medication used to treat DPN, in order to minimize potential side effects.