ophthalmology sometimes diagnosed MS in unsuspected cases. Detailed examination of the retina may be under-utilized in clinical neurology. This description of ocular pathology at all disease stages in a large adult case series supports the utility of tracking MS disease progression by retinal examination and imaging in patients of all ages.

GENE- VITAMIN D INTERACTION AND MULTIPLE SCLEROSIS

Evidence for a role of vitamin D and direct gene-environmental interaction in the cause of multiple sclerosis (MS) is reviewed by researchers at John Radcliffe Hospital, Oxford, UK. Factors known to affect the prevalence of MS include geographical and correlation with latitude, exposure to sunlight, vitamin D intake and serum levels of 25-hydroxyvitamin D, the modifications of vitamin D levels related to pregnancy, maternal diabetes and obesity, and the regulation by vitamin D of the main MS-associated HLA-DRB*1510 allele. A study in twins with MS finds that vitamin D levels are regulated by genetic variation in the 1-hydroxylase and vitamin D receptor genes, emphasizing the importance of gene-environmental interaction and vitamin D in the cause of MS. The evidence is largely circumstantial but sufficiently strong to support trials of vitamin D supplementation tailored to risk factors and genetic profile. (Handunnetthi L, Ramagopalan SV, Ebers GC. Multiple sclerosis, vitamin D, and *HLA-DRB1*15*. **Neurology** 2010;74:1905-1910), (Respond and Reprints: Professor George C Ebers, University Department of Clinical Neurology, Level 3, West Wing, John Radcliffe Hospital, Oxford OX3 9DU, UK. E-mail: george.ebers@clneuro.ox.ac.uk).

COMMENT. In an editorial, Wingerchuk DM (**Neurology** June 2010;74:1846-1847) discusses the potential preventative and therapeutic benefits of vitamin D supplementation in MS. He reviews results of a year-long phase I/II open-label, randomized, controlled, dose-escalation study of vitamin D supplementation in 49 patients with MS (90% with relapsing remitting disease).(Burton JM et al. **Neurology** 2010;74:1852-1859) With a maximum target dose of 40,000 IU daily by weeks 23-29, 10,000 IU daily from weeks 29-41, and finally 4,000 IU daily to end of study, vitamin D therapy resulted in sustained supraphysiological serum levels of 25-hydroxyvitamin D without adverse effects on calcium metabolism or evidence of nephrolithiasis. Clinical outcomes suggested a trend toward reduced relapse rate of MS and less disability progression in the vitamin D treatment group. Further controlled studies are required to establish the optimal dose of vitamin D in supplementation trials.

The June issue of **Ped Neur Briefs** includes reference to a report of low vitamin D levels associated with an increased relapse rate in pediatric-onset MS. (Mowry EM et al. **Ann Neurol** May 2010;67:618-624). Relapse rate of MS in pediatric-onset is significantly higher than that in adult-onset cases (Gorman MP et al. **Arch Neurol** 2009;66:54-59).

Low 25 hydroxyviramin D levels prevalent in black adolescents living in sunny southeastern US in all seasons are related to adiposity and poor physical activity and fitness. (Dong Y et al. **Pediatrics** June 2010;125:1104-1111).