



**DIABETIC RETINOPATHY IN THE KATHERINE REGION OF THE
NORTHERN TERRITORY**

by

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Abstract

Diabetes has reached epidemic proportions among Aboriginal Australians (Daniel et al 2002). This thesis presents results from the Katherine Region Diabetic Retinopathy Study (1993 –1996). These results provide the first detailed information on the basic epidemiology of diabetic retinopathy and impaired vision in an Aboriginal diabetic population.

Results of the Katherine Region Diabetic Retinopathy (KRDRS) show that while on the basis of overall prevalence alone, diabetic retinopathy may not seem as major a complication in Aboriginal communities as in the general Australian diabetic population, the highest reported prevalence of clinically significant macula edema (CSME) in Australia, and vision-threatening retinopathy (VTR) prevalences similar to or higher than in the Newcastle Study of Diabetic Retinopathy (NSDR) (Mitchell 1980) suggest otherwise. This is especially so if prevalences are adjusted for previous laser treatment.

On the basis of the annual incidence rate the progression of diabetic retinopathy may seem to be slower than in the non-Aboriginal community in Australia, however the much higher incidence of VTR compared to the NSDR suggest otherwise. More so, since the time since diagnosis of diabetes in subjects and the observation period in the KRDRS was much shorter than in the NSDR (Mitchell 1980, 1985, 1990).

The prevalence of blindness in the Aboriginal diabetic population of the KRDRS was as high as in the non-Aboriginal Australian population approximately 30 years older (Newland 1996, Taylor 1997, Wang 2000). The major cause of impaired vision, monocular and binocular blindness was cataract, just as it was in Taylor's report 25 years ago in an Aboriginal

Australian population (Taylor 1977). Data from the KRDRS also show that impaired visual acuity, irrespective of whether ocular pathologies other than diabetic retinopathy are present, is a poor indicator of diabetic retinopathy, maculopathy, CSME or VTR.

On the basis of results from the KRDRS annual screening for diabetic retinopathy in Aboriginal communities is recommended. The method of screening selected must allow case identification to be followed by treatment. The individual needs of Aboriginal communities together with the spectrum of ocular pathology must also be considered.

Analysis of the KRDRS study populations in 1993 and 1996 shows that the burden on ophthalmic services will increase. The geographic and cultural environment of the people and the epidemiology of the disease in Aboriginal communities present health service planners and clinicians with substantial challenges related to surveillance, treatment and follow-up.

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