**Assessment of Optic Disc Pits**

**Mr David Steel FRCOphth, Newcastle University**

Optic disc pits are a rare abnormality of the optic nerve head occurring with a prevalence estimated at between 0.02 to 0.19%. Fundoscopically they most commonly appear as a grey round or oval ~0.3disc diameter depression in the temporal segment of the disc, although they can occur in any part of the temporal disc and centrally. Their origin is uncertain. Most are thought to be congenital and are generally not associated with other systemic or eye abnormalities. However they can be also be acquired associated with myopia and glaucoma and some have been associated with orbital abnormalities, basal encephaloceles, renal abnormalities as well as the Aicardi and Alagille syndromes. As an isolated finding they are usually asymptomatic but can be associated with field defects. Importantly however approximately 25-75% of patients develop an associated serous detachment of the central macula with reduced vision: this is termed optic disc pit maculopathy (ODPM).

ODPM from congenital pits usually presents in the 3rd and 4th decade but can occur in childhood. It has been most commonly described as occurring initially as an intraretinal schitic collection of fluid deep to the nerve fibre layer starting adjacent to the pit, which then spreads to the foveal area, later leading to outer retinal defects with the creation of outer retinal separation. The origin of the fluid is uncertain but most current observations suggest that it is from the vitreous cavity via retinal defects within the pit associated with glial tissue and associated possible traction. Spontaneous resolution of the serous macular fluid has been rarely recorded with variable visual outcome. A variety of interventions have been suggested again with variable outcomes. Case series reported have universally been on small single figure number of patients. Globally there is a great deal of uncertainty of the optimal management of these patients.

The prevalence of optic disc pits is uncertain and their associated and potential causal features undefined. There is also significant confusion with a variety of other congenital optic disc abnormalities including morning glory syndrome, optic disc colobomas and optic nerve hypoplasia. Some of these have been associated with serous macular fluid as well as have acquired optic disc pits including those in association with glaucoma. The images and data from the UK biobank would offer a hereto unprecedented opportunity to understand these conditions further.

