CONCLUSION & SUMMARY
SUMMARY AND CONCLUSIONS

Twenty-five patients (thirteen male, twelve female) of diabetes mellitus with established diabetic retinopathy at least in one eye were studied by detailed ophthalmoscopy and fluorescein angiography.

Patients were divided into two groups depending upon type of treatment required to control the diabetes: Insulin Dependent Diabetes Mellitus (IDDM) - seven patients and Non-Insulin Dependent Diabetes Mellitus (NIDDM) - eighteen patients.

Diabetic retinopathy observed in forty-five observable eyes of these patients was classified into simple Diabetic Retinopathy (thirty-one eyes) and Proliferative Diabetic Retinopathy (fourteen eyes). Maximum (36%) patients belonged to fifth and sixth decade of life. Minimum duration of diabetes in this series was five years with average duration of 16.3 years in IDDM group and 11.7 years in NIDDM group. SDR, which was more common in NIDDM group (60%), presented after average duration of ten years of diabetes whereas PDR, which was more common in IDDM group (60%), presented after average duration of 17.7 years of
diabetes.

Average duration of diabetes mellitus in eyes presenting with PDR, was twenty-one years for IDDM group and fifteen years for NIDDM group i.e., PDR took less time to develop in patients with NIDDM than patients with IDDM.

The quality and regularity in control of diabetes mellitus was not significant in NIDDM group but poor control of diabetes may be one of the factors causing PDR as 40% patients in this group had poorly controlled and no patient had well controlled Diabetes mellitus.

Presence of microaneurysms was observed as the earliest demonstrable sign of diabetic retinopathy and was present in 93% eyes. Retinal haemorrhages mostly of deep dot blot and sponge mark type were observed in 62% eyes varying from few small punctate haemorrhages to massive preretinal haemorrhages. Retinal exudates were observed in 60% eyes, mainly of hard and dry type but varying widely in size and shape. Venous dilatation was observed in 33% eyes, being present in most of early cases but it was not a consistent feature in all cases. Marked venous changes like nicking, looping or occlusion of vein was not observed in this series.
Neovascularisation was observed in 31% of eyes and was most common feature in PDR group. Disc neovascularisation was present in 64% of eyes and neovascularisation elsewhere in fundus was present in 36% of eyes with PDR.

Vitreous changes in form of vitreous haemorrhage and subhyaloid haemorrhage were observed in one eye each. No retinal detachment was observed in this series. Diabetic maculopathy i.e. retinopathy with aided visual acuity less than 6/24 was observed in fourteen eyes out of which ten belonged to NIDDM group. It was much less common in patients with IDDM.

Fluorescein angiography was found invaluable in diagnosis of cases of diabetic retinopathy. It was of great help in diagnosing early cases by observing microaneurysms and intraretinal microvascular abnormalities. Its value was further highlighted in finding leakage and pooling of the dye due to increased permeability of small retinal vessels. F.A. was again proved to be of immense use in locating neovascularisation and their extent in the fundus. Another important use of F.A.
is to find areas of non-perfusion and observe the condition of perifoveal capillary arcade on which depends the further progress of retinopathy and visual prognosis respectively.

CONCLUSIONS

.. Diabetic retinopathy is more common in fifth and sixth decade.

.. NIDDM is more common than IDDM in patients with Diabetic retinopathy.

.. Type of Diabetic retinopathy has direct relationship with visual acuity, PDR causing more damage to visual acuity.

.. Quality of control of Diabetes mellitus has important bearing on type of retinopathy.

.. Number of microaneurysms observed on F.A. is much more than those observed on direct ophthalmoscopy.

.. Leakage or pooling of the dye is universal in eyes with PDR but only half of eyes with SDR show leakage or pooling.
Incidence of retinal haemorrhage and exudates is almost double in PDR than in SDR but it is similar in IDDM and NIDDM groups.

Areas of non-perfusion have an incidence of 93% in PDR and only 16% in SDR.

F.A. is an invaluable procedure in diagnosis of Diabetic retinopathy.