Summary

Thirty children were enrolled in this study having congenital heart disease with age ranged from neonatal period to 16 years old. They were 16 males and 14 females. The study was performed at Benha University Hospital.

Data sheets were done for each patient including age, sex, type of cardiac lesion, presence of cyanosis, recurrent chest infection, cardiomegaly, lung plethora, lung oligemia and different fundus changes. All data were recorded, tabulated and statistically evaluated.

Thorough medical history, clinical examination and investigations of the heart including chest X-ray and echocardiography were performed to identify and diagnose cardiac lesions.

Ophthalmic examination including slit lamp and fundus examination were performed to detect retinal vascular changes.

The study included seven ventricular septal defect cases, four atrial septal defect cases, three patent ductus arteriosus cases, three tetralogy of Fallot cases, two severe pulmonary stenosis cases, two atrial septal defect with pulmonary stenosis cases, two transposition of great arteries cases, two ventricular septal defect with pulmonary hypertension cases, two aortic coarctation cases, one case of atrial septal defect with mesocardia, one case of ventricular septal defect and pulmonary stenosis and one case of atrial and ventricular septal defects.

The study showed that:

- 26.4% of the studied children have increased intraocular pressure with no statistical significant difference between cyanotic and acyanotic children regarding increased intraocular pressure.

- Positive fundus findings were represented as follows: 56.6% (17 cases) have attenuated retinal vessels, 51.7% (15 cases) have straightened retinal vessels, 40% (12 cases) have increased retinal vascular tortuosity, 20% (6 cases) have papilledema and 6.6% (2 cases) have retinal haemorrhage.

- There was a significant statistical correlation between decreased arterial oxygen saturation and both retinal vascular attenuation and straightening.

- There was a significant statistical difference between cyanotic and acyanotic children regarding retinal vascular attenuation but there was no statistical difference regarding other fundus findings.

- Positive significant correlation between cyanosis and all retinal changes in children with congenital heart disease.

- The statistical difference between cyanotic and acyanotic children regarding haemoglobin level, hematocrite value and arterial oxygen saturation with highly positive significant difference in both types of congenital heart disease