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Hospital Based Study on Percentage Diabetic Patients Requiring Vitrectomy

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Abstract:Introduction-Vitreous/preretinal haemorrhage is one of the most common complication of PDR that causes visual impairment. Tractional retinal detachment involving the macula also a major threat to the vision. Pars plana vitrectomy is the treatment choice for non-clearing haemorrhage and tractional retinal detachment involving the macula.Purpose–To estimate the percentage of diabetic patients requiring pars plana vitrectomy.Methods - It is hospital based non-comparative, non-interventional epidemiological study done over the period of 1 year(March 2018-Feb 2019)Results- Out of total number of diabetic patients (1582) over a period of 1 yr 42(2.65%) pts with non-clearing vitreous/preretinal haemorrhage and tractional retinal detachment involving the macula required pars plana vitrectomy.Conclusion-There are significant percentage of PDR patients(2.65%) presenting with vitreous haemorrhage, in whom vision can be improved with timely intervention in form of vitrectomy.

Keywords: Diabetes, diabetic retinopathy, percentage of diabetic patients, vitreous haemorrhage, pars plana vitrectomy

1. Introduction

Diabetic retinopathy is one of the leading causes of blindness in the working population. The prevalence of diabetic retinopathy increases with duration of diabetes and nearly all patients with Type 1 and more than 60% with Type 2 diabetes develop some signs of retinopathy after 20 years duration.[1]

The patients may first present in the advanced stage of disease with retinal detachment that is not amenable to medical management. Nearly 5% of patients show continued progression of retinopathy and require surgical intervention.[2,3,4] Additionally, patients with tractional diabetic macular edema require pars plana vitrectomy (PPV).[5]

Vitreous haemorrhage is the most common complication of PDR that causes decreased visual acuity and also interferes with pan retinal photocoagulation and may require vitrectomy.

2. Aim of the Study

The study was done to estimate the percentage of diabetic patients requiring vitrectomy.

3. Material and Methods

This hospital based, non- interventional, epidemiological study was conducted in the Regional Institute of Ophthalmology, Gauhati Medical College and Hospital, during the period July 2018 - June 2019.

All the patients attending RIO OPD with history of diabetes were included in the study.

A complete history was taken, and due importance was given to the following points-

1) Age, Sex
2) Details of the complaints
3) Duration of diabetes mellitus
4) Treatment history
5) Other associated disorders
6) Personal history and
7) Relevant family history

Ocular examination was done in every patient. Based on the fundus examination, patients were divided into mild, moderate, severe non proliferative and proliferative diabetic retinopathy.

All the patients with following Indications were considered for pars plana vitrectomy:

- Severe persistent vitreous haemorrhage that precludes adequate PRP.
- Progressive tractional RD threatening or involving the macula
- Premacularretrohyaloid haemorrhage.

Percentage for each group was calculated.

4. Results and Discussion

Sex Distribution

Total number of patients in one year - 34464
Number of males - 18754 (54.4%)
Number of females - 15710 (45.6%)

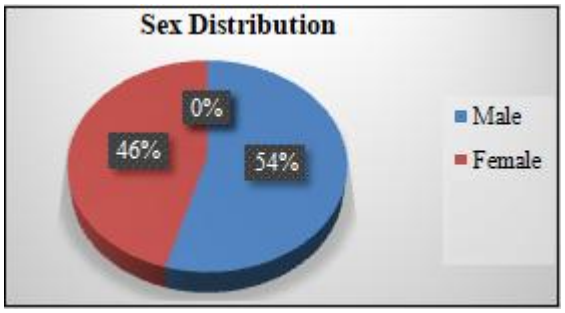

Figure 1: Pie chart showing sex distribution in total patients

Diabetes

Total number of diabetic patients - 1582 (4.6% of total patients)
Number of male diabetic patients – 886 (2.6% of total patients)
Number of female diabetic patients – 696 (2.0% of total patients)

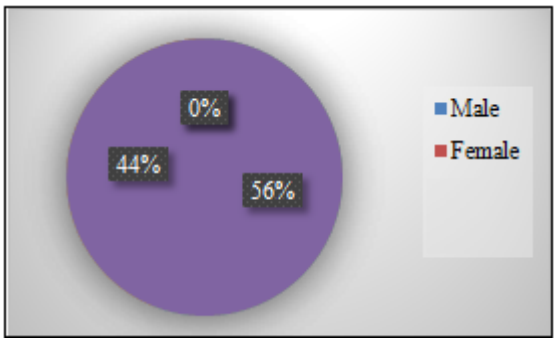

Figure 2: Pie chart showing sex distributionin diabetic patients

Diabetic Retinopathy

Total number of patients with diabetic retinopathy - 332 (21% of total diabetic patients)
Total number of male patients with diabetic retinopathy - 194 (12.3% of total diabetic patients)
Total number of female patients with diabetic retinopathy - 138 (8.7% of total diabetic patients)

Proliferative DiabeticRetinopathy without vitreous haemorrhage or tractional retinal detachment involving the macula

Total number of patients with proliferative diabetic retinopathy - 39 (2.5% of total diabetic patients)
Total number of male patients with proliferative diabetic retinopathy - 21 (1.3% total diabetic patients)
Total number of female patients with proliferative diabetic retinopathy - 18 (1.2% total diabetic patients)

Vitreous Haemorrhage/Pretinal Haemorrhage Involving Macula

Total number of patients with vitreous haemorrhage/pretinal haemorrhage involving macula - 34 (2.1% total diabetic patients)
Total number of male patients with vitreous haemorrhage/pretinal haemorrhage involving macula – 20 (1.26% total diabetic patients)
Total number of female patients with vitreous haemorrhage/pretinal haemorrhage involving macula – 14 (0.88% total diabetic patients)

Tractional Retinal Detachment Involving Macula

Total number of patients with tractional retinal detachment involving macula – 8 (0.50% total diabetic patients)
Total number of male patients with tractional retinal detachment involving macula - 5 (0.31% total diabetic patients)
Total number of female patients with tractional retinal detachment involving macula – 3 (0.18% total diabetic patients)

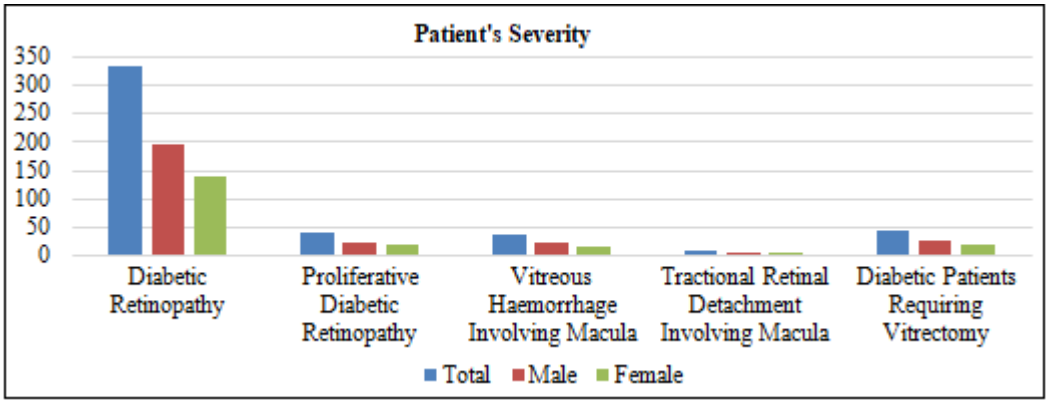

Figure 3: Column diagram showingnumberof patients under each group

According to ETDRS study 5.4 % of total diabetic retinopathy patients required vitrectomy.[6]

5. Conclusion

In our study, total number of diabetic patients requiring vitrectomy - 42 (2.6% of total diabetic patients/12% diabetic retinopathy patients). So, there are significant number of diabetic patients, in whom vision can be saved by timely intervention in form of vitrectomy.

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