CLINICAL PRACTICE PATTERN IN THE MANAGEMENT OF DIABETIC RETINOPATHY AMONGST EGYPTIAN OPHTHALMOLOGISTS

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INTRODUCTION

Diabetic retinopathy (DR) is the most common microvascular complication of diabetes. It is the leading cause of visual loss in the working age population. Management of diabetic retinopathy (DR) includes both diagnostic modalities as well as treatment. There are multiple imaging modalities available including, optical coherence tomography (OCT), color fundus imaging, fluorescein angiography (FA) and optical coherence tomography angiography (OCTA). Furthermore, there are several treatment options available such as panretinal photocoagulation (PRP), anti-vascular endothelial growth factor (VEGF) injections, subtenon steroids and pars-planavitrectomy. There is a wide variability in the practice patterns of Ophthalmologists globally which has prompted national and international Ophthalmologic associations to issue guidelines and preferred practicepatterns. However, prior to developing these guidelines current local practice patterns would need to be determined. This is particularly importan in Egypt which combines both private and public health care, limited resources and substantial out of pocket expenses for patients.

AIM OF THE WORK

To evaluate the clinical practice pattern in the management of diabetic retinopathy among practicing Egyptian ophthalmologists.

SUBJECTS AND METHODS

SUBJECTS: This study included survey about clinical practice pattern in management of diabetic retinopathy amongst Egyptian ophthalmologists.

Inclusion criteria:

- Egyptian ophthalmologists.
- General ophthalmologist.
- Retina specialist.
- Exclusion criteria
- Non Egyptian ophthalmologists.

METHODS: The University of Alexandria Human Research Ethics Committee approved this cross-sectional study. The research was based on the analysis of surveys about diabetic retinopathy practice patterns. The survey was primarily distributed through an online webpage,. In October 2021, the survey was active for about a month. The survey was collected using Google forms and stored in Google sheets, which are encrypted by default. The survey covered the management of diabetic retinopathy (DR) amongst practicing ophthalmologists and covered both current investigative and treatment.

Questions were asked about critical aspects of DR management such as imaging, outcomes, and therapeutics. There were 18 questions, with 4-5 possible answers for each. In each question, only one response was permitted. The survey was distributed to 202 Egyptian ophthalmologists. The margin of error for this survey is +/- 8% at the 95% confidence level.

RESULTS

For patients with DR and no DME, 2% of respondents would order an FA for eyes with no DR, 32.5% for mild NPDR, 44.3% for moderate NPDR, 51.2% for severe NPDR and 47.8% for PDR. In addition, 1.5% of respondents stated that they would never order FA for a patient with DR and no DME. (Figure 1).

When asked about which modality they would use to grade the level of retinopathy, only 34 (21.2%) stated they would use color photography alone, while approximately two thirds of those surveyed stated that they would use dilated fundus exams (DFE) (137; 67.5%) or FA (142;70%). Of those respondents who said that they would use FA to grade DR, approximately 37.1% (53/143) said they would use FA alone, while a similar number would use a combination of FA and dilated eye exam (59/143; 41.3%) (Figure 2).

When planning treatment for patients with DR without DME, 37 (18.2%) said that they would use color imaging (CI), 53.2% said they would use DFE and approximately three-quarters they would use FA (74.4%) (Figure 3).

For levels of retinopathy less than PDR, 106 (52.2%) respondents said they would perform PRP in eyes with severe NPDR and 43 (21.3%) said they would do so in eyes with moderate NPDR (Figure 4).

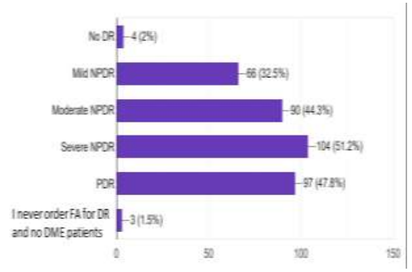

Figure1: umber and percentage of respondents who ordered FA for different grades of DR and no DME.

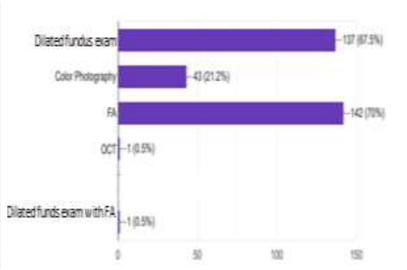

Figure2: Methods used by the respondents to grade DR

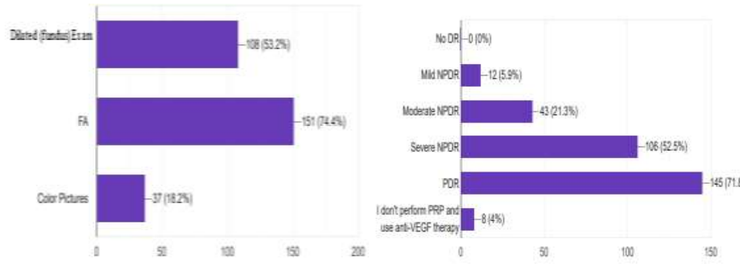

Figure3: Distribution of the respondent answers regarding the method they would use for planning the treatment for patients with DR and no DME.

Figure4: Respondent answers regarding which DR severities they would manage with panretinal photocoagulation.

CONCLUSION

The current study highlights how the relianceon FA rather than standard color images for DR assessment may affect the treatment costs in Egypt. The study also highlights the lack of utilization amongst ophthalmologists in Egypt of color fundus photography. This may impact the development of a national screening program, given the general worldwide use of CI for such endeavors and the poor feasibility of FA for mass screening efforts.

Furthermore, if FA would be used in such a national program it might be associated with unnecessary referrals which may over-whelm the health care system. With artificial intelligence expected to be widely used in future DR screening programs, it is possible that adoption of AI approaches based on CI may be met with significant resistance in Egypt. Increased training and education regarding the use of CI as opposed to FA amongst practicing ophthalmologists may be needed to increase their confidence in that modality and help the establishment of successful screening initiatives.