



A Method: Fornix Depth Measurement in Ophthalmic Socket

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ABSTRACT

Several methods have been publicized to measure the fornix depth but the error in the measurement makes them inconvenient for the correct diagnosis of fornix depth in the eye. In view of the cruelty of disease the precise method is needed to correctly evaluate the fornix depth measurement. In this report, a novel approach is being addressed, to solve the depth measuring issue with the logical experimental design. The explanation with the proposed hypothesis is described here with the relevant scientific approach, the emphasis of certain advantages of the present invention over the conventional measurement approaches. In this case the diagnosis and the process of diagnosis should be accurate, but in the field of ophthalmology an accurate measurement of fornix depth without committing any error was a challenging task. So far in the development of the measurement of fornix depth is concern. Currently, we discussed a novel method for the measurements of fornix depth in ophthalmic eye, which will be beneficial to get the accurate value, however it was not possible in the previously reported methods. It will have many advantages over the existing methods.

1. Introduction

The error in the experimental science is a lucrative task to all the scientist of the world. The minimal error in medical science plays a very important role, because of the direct dealing with the human, which some time leads to the unavoidable. Situation, hence the errors free technique a big market for the revenue generation. (Mayo, Deborah G. *Error and the growth of experimental knowledge*. University of Chicago Press, 1996). The medical science need a precise method to diagnose the illness, however the diagnosis is the fundamental process of the treatment, so the diagnosis should be precise.

In this case the diagnosis and the method of diagnosis should be accurate, but in the field of ophthalmology an accurate measurement of fornix depth without committing any error is a challenging task. So far in the development of the measurement of fornix depth is concern. The diagnosis of the eye is associated with many sequential eye disorders, so the proper measurement of the fornix depth is a crucial part in the ophthalmic science. Among the many eye disorders the symblepharon is a critical disorder which is the lesion of the palpebral conjunctiva of the eyelid to the bulbar conjunctiva of the eyeball, which elicit from

the chemical sensation, Stevens–Johnson syndrome (SJS), ocular cicatricial pemphigoid, trachoma, herpes zoster, atopic kerato-conjunctivitis, scleroderma, or graft versus host disease and many others.

To examine the partial or complete adhesion to the fornix, it is a variable factor to correctly ascertain the depth of fornix. The error in measuring fornix depth causes various numbers of other associated factors is also there which directly or indirectly affects to cause. To combat the challenge about the precise measurement of fornix depth with more appropriate method is a mystery so far. The designing of the apparatus need a sound knowledge of normal anatomy of fornix as well as the efficacy of available anti-scarring therapies as well.

In the scientific reports several methods have been revealed to measure the fornix depth but the error in the measurement makes them inconvenient for the proper diagnosis of fornix depth in the eye. In view of the severity disease the accurate method is need to develop for the fornix depth measurement. This problem statement leads us to the development of the methods to correctly evaluate the fornix depth measurement. In this report, a novel approach is being addressed, to solve the depth measuring issue with the logical experimental design. The explanation with the

proposed hypothesis is described here with the relevant scientific approach with the emphasis of certain advantages of the present invention over the conventional measurement approaches

In the present invention, useful method of fornix depth measurement has been done, which will dominate the regular use of custom-designed device (Polymethylmethacrylate) for fornix depth measurer (FDM). It will be essential tool to evaluate the anti-scarring therapy, need objective evaluation of scarring plus understanding of normal fornix structure. In conventional method, there is the probability of error in the value of the normal fornix depth (FD), however there are some studies, which are investigating normal conjunctival FD by the different methods.

We designed and demonstrated a novel method which will be based objective measurements and beneficial to get the accurate value of fornix depth in ophthalmic socket, however it was not possible with the others conventional methods; due to presence of the manually handled embedded ruler.

2. Field of the Invention

The present invention proposed a novel method for the relation to quantify the amount of conjunctival fibrosis on behalf of records to evolution in conjunctival scarring disease, based on objective measurement of superior plus inferior conjunctival fornix depth and knowledge of standard fornix anatomy, was a clinical challenge.

3. Summary of Invention

To assessing anti-scarring treatments have need of objective evaluation of scarring, also understanding of standard fornix anatomy in normal ophthalmic socket, Objective evaluation of improvement of conjunctival cicatrization, plus the awareness of standard conjunctival fornix depth values, is a necessary pre-requirement while assessing the worth of anti-scarring treatments in the classical scarring disorder, ocular mucous membrane pemphigoid, it has been detected that scarring can progress despite apparent clinical control of inflammation.

Early recognition of any appearance of progressive cicatrization is the solution in the direction of managing of conjunctival scarring disorders. Clinically, single have get to look for increased conjunctival shrinkage or development of symblepharon, Objective dimension of conjunctival fornix depth, with awareness of probable standard range of values, would agree to prior recognition of conjunctival fornix reduction (Foster phase II), in an ideal world before the progress of (Foster phase III) symblepharon.

But now in this invention & a novel method of fornix depth measurement in ophthalmic eye, with the use of Contrast (Radiopaque tropical dye) eye drop in fornix & take radiographic image with the computed tomography (CT) scan. It will be measure the fornix depth in radiograph and useful for objective evaluating anti-scarring therapies of the fornix.

4. Detailed Description of the Invention

The contrast (Radiopaque tropical dye) eye drop creates the boundaries in the fornix, which is easily recognized in the radiograph.

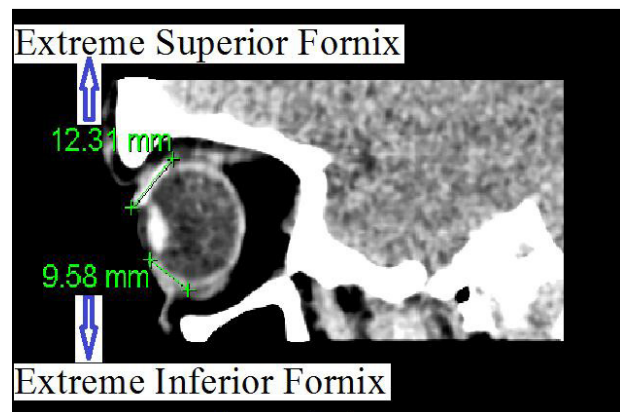


Figure 1:
Radiograph: The present (new) invention, the method of fornix depth measurement of ophthalmic eye

The radiograph image will help to measure the fornix depth in different direction with the use of the computed tomography (CT) scan (Figure 1).

4.1 Conjunctival troubles

Symblepharon: This occurs while adhesions start among the bulbar and palpebral conjunctiva. This can occur in a number of situations be fond of burn injury, with recurring pterygia, in Stevens-Johnson syndrome, etc.

The quantifying amount of conjunctival fibrosis used for records of progress in conjunctival scarring disease is a medical challenge. The purpose of this, new present invention will be able to resolve the current problem by a non-invasive radiographic method. It will define the limit of average conjunctival fornix depth/ structure, which may be helpful to normative records of superior and inferior fornix depths (FDs) to assess variability in different gauging of fornix depth, area and fornix intercanthal distance (FICD) in a normal people and it will also provide

the information about the effect of age and sex. This estimation method may be beneficial in future for assessing the cruelty of symblepharon plus determination of the post-surgical prediction. Conjunctival fornical foreshortening is significant in ascertaining phase of the progressive cicatrizing conjunctivitis (PCC) disease, Although different tools have been identified so far but they are not precise as much as our present invention.

Conclusion

Here, we discussed a novel method for the measurements of fornix depth in ophthalmic eye, which will be beneficial to get the accurate value, however it was not possible in the previously reported methods. It will have many advantageous over the existing methods.

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