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Ophthalmology

Pharmacological Self-Medication Saves the Eye Surface of a Diabetic

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Abstract **Original Research Article**

Eye dryness is a public health problem and an impairment of the quality of life, which can lead to depression in psychologically fragile patients. The presence of dry eye in diabetics is a very frequent finding, but unfortunately it is not well known. The ophthalmologist concerned about the management and monitoring of the diabetic retina. Our study has highlighted the importance of the clinical examination of the surface of a diabetic for the label as a carrier of a dry syndrome but also allowed to emphasize the importance of autologous serum outside the routine treatment of drought. Autologous serum should be used whenever possible in drug-resistant droughts; it is a valuable and personalized miracle for patients

Keywords: Autologous serum - eye dryness - diabetes.

INTRODUCTION

Dry eye is a common reason for consultation in ophthalmology. It presents a public health problem by its financial cost and its significant impact on the quality of life. Several etiologies are described and several pathophysiological mechanisms well understood, but the ophthalmologist is always more attentive to the retina of the diabetic than to his cornea. The objective of our study is to focus on the diabetic eye dryness still unknown by the ophthalmologist and show the place of an effective personalized treatment rarely used in our context which is the autologous serum.

MATERIAL AND METHOD

A prospective study spanning a period of 6 months (from September 2018 to February 2019) gathered in the ophthalmology department A of the Rabat Hospital of Specialties, covering 5 diabetic patients. Inclusion criteria include: no other cause of dry eye, no drug, no improvement after lacrimal replacement, lens wear, or refractive surgery.

Result 80% foreign body sensation and tingling sensation, 50% burning sensation, 85% watery eyes, 30% moderate pain, 40% troublesome fibrotic secretions, 90% eye redness, 50% decrease in blinking frequency patients, meibomite in 35%, and hypoaesthesia in 100% of patients. KPS: Oxford scores: 60% grade 6, 40% grade 5, break-up time (BUT) with impaired fluorescein in all patients. Schirmer I test without anesthesia less than 5 mm to 5 min in 100%, reduced lacrimal river in 70%, corneal ulcer en 1 patient, keratoconjunctivitis sicca in 1 patient.

All patients received 6 vials of autologous debrum for each blood sample, covering a period of 3 months at a raté of one bottle every 2 weeks, the other vials were stored at -20 degree. 4 samples in total over a period of 1 year, the frequency of instillation varies between 1 to 2 instillations per day with rapid use of autologous eye drops the patient should not leave his treatment well in advance and the preservation is done in the refrigerator in an insulated bag.

Evolution marked by the spectacular decrease of the symptoms after the 1st control at 6 weeks then at 12 weeks, decrease of the KPS passing from grade 6 to 4 in 2 patients, and from 4 to 2 in 3 patients, BUT normalized at 4 patients after the 4th month, stabilization of clinical improvement in all patients after 6 months. None of our patients had an infectious complication or treatment intolerance (Figure 1,2,3,4,5).

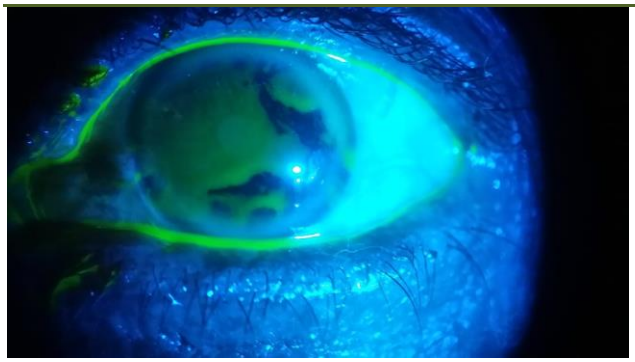

Fig-1: Altered Break Up Time Reflecting a Major Drought

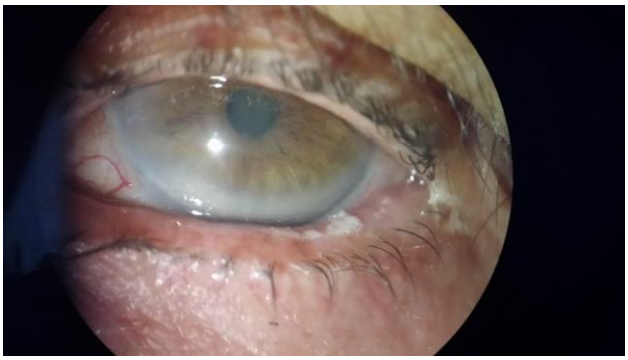

Fig-2: Foamy secretion with blepharitis

Fig-3: Tear film with debris with diminished lacrimal rivé

Fig-4: Conjunctivochalasis

Fig-5: Telangiesctasies of the free edge

DISCUSSION

According to N. Ducrey the cornea of the diabetic has particular clinical characteristics, the corneal sensitivity is due to a peripheral neuropathy which will be diminished and all the more so that the diabetic retinopathy is advanced and that the glycométabolique equilibrium is disturbed. The sensitivity is even more impaired in a diabetic in whom panretinal photocoagulation treatment was performed by lesion of the long ciliary nerves [1]. The frequency of keratitis or ulcers is significantly increased in diabetics, which explains why healing of corneal wounds is slower and more difficult [2]. Vitrectomy can lead to recurrent erosions or even corneal edema are more common in diabetics than in other patients [3,4].

The principle of treatment with autologous serum (SA) is based on the need to supplement the ocular surface with trophic factors [5]. Growth factors, vitamins and fibronectin present in serum have, at least in fundamental terms, demonstrated a beneficial effect on cell growth [6]. Several growth factors have shown positive effects on epithelial scarring, including epidermal growth factor (EGF) and nerve growth factor (NGF). [7,8]. Autologous serum preparation is different from one team to another, but all teams require the use of a vial for a period of not more than 8 days to avoid the risk of infection.

Although there is no regulation in Morocco that codifies the collection, preparation and use of autologous serum, its use in various pathologies other than the dry diabetic syndrome has proved its effectiveness with the addition of other means and sometimes even effective in the absence of financial and logistic means to manage ptoentially compliant surface pathologies.

CONCLUSION

Eye dryness is a public health problem and an impairment of the quality of life, which can lead to depression in psychologically fragile patients. The presence of dry eye in diabetics is a very frequent finding, but unfortunately it is not well known. the ophthalmologist concerned about the management and monitoring of the diabetic retina. Our study has

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