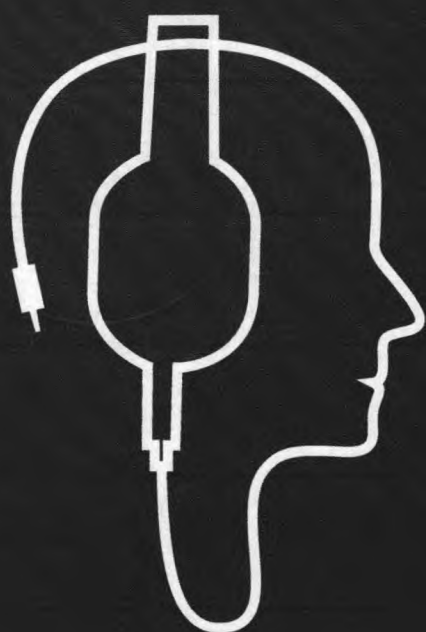




ABSTRACT BOOK



PERDAMI Virtual Scientific Meeting 2020

18-21 September 2020



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ABSTRACT FREE PAPER

FP-GLA-01

Association of statin use with risk of developing open-angle glaucoma

Abstract Title

Association of statin use with risk of developing open-angle glaucoma

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Abstract Type

Research

Introduction & Objective

Open-angle glaucoma (OAG) is a progressive neurodegenerative disease that leads to glaucomatous optic neuropathy and is the leading cause of irreversible blindness worldwide. Statins are inhibitors of 3-Hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase, a class of cholesterol-lowering medication prescribed for prevention and treatment of cardiovascular disease. The pleiotropic properties of statins such as antioxidant, immunomodulation, and effects on the nitric oxide synthase system has been proposed to protect retinal ganglion cells (RGC) against glaucomatous damage. We performed a systematic review to summarize the evidence to address the conflicting results of the association of statin use with OAG.

Method

The systematic review was done by searching the following electronic database from 2010 to 2019: PubMed, MEDLINE, and Cochrane Library. Studies in English with human participants were included. Review articles were excluded.

Result

We identified four cohort studies and one case control study with a total number of 691.346 participants. No randomized control trials were retrieved. There was inconsistent evidence regarding the protective effect of statins against the incidence of OAG. One study shows that high dose of statins may increase the risk of OAG (p

Conclusion

Statin use with a minimal duration of 2 years was associated with a significant reduction in the risk of developing OAG. Further research is needed to determine the duration and dose used to obtain a protective effect.

Keyword

statin, open-angle glaucoma

Category

Free Paper Presentation

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Effect of hormonal contraception on the tear film and ocular surface

Abstract Title

Effect of hormonal contraception on the tear film and ocular surface

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-

Abstract Type

Research

Introduction & Objective

To analyze the changes occurring in the tear film and ocular surface in young women using hormonal contraceptive agent in Padang, Indonesia.

Method

A cross-sectional study and the participants consisted of 56 healthy women of childbearing ages, aged 20 to 45 years old, divided into two groups; the experimental group (women using hormonal contraceptives) and the control group. All participants have interviewed with OSDI questionnaire. Tear secretion and tear stability were measured using Schirmer test and fluorescein TBUT, respectively. Ocular surface impression cytology with cellulose acetate filter paper was taken from inferonasal bulbar conjunctiva and was stained with Periodic Acid-Schiff and counter-stained with hematoxylineosin.

Result

There were no significant differences in tear secretion and tear stability between the experimental and control groups ($P > 0.05$). Within experimental group, women who used injection hormonal contraceptives had the lowest mean value of Schirmer test and TBUT compared to combined oral contraceptives and subdermal implant contraceptives users, but this was not statistically significant. There was a statistically significant decrease of goblet cell density and conjunctival epithelium metaplasia, where 25% participants in experimental group had an abnormal impression cytology result compared with none in control group. The experimental group also had higher OSDI score than the control group, but this was not statistically significant.

Conclusion

Hormonal contraceptives had no significant effect on dry eye symptoms, tear secretion and stability on women of childbearing age. Ocular surface alteration found on women using hormonal contraceptives is subclinical and not correlated with symptoms and signs of dysfunctional tear film.

Keyword

hormonal contraception, tear secretion, tear stability, impression cytology, dry eye.

Category

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FP-IIM-02

CHARACTERISTICS OF AMNION MEMBRANE TRANSPLANTATION PATIENTS AT MENCIRIM 77 EYE HOSPITAL

Abstract Title

CHARACTERISTICS OF AMNION MEMBRANE TRANSPLANTATION PATIENTS AT MENCIRIM 77 EYE HOSPITAL

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Abstract Type

Research

Introduction & Objective

Lee and Tseng first introduced the use of amniotic membrane in the treatment of persistent epithelial defect (PED) with corneal ulcer. The membrane has been used successfully to treat PED and ulcers from different causes. Amniotic membrane (AM) can function in the eye as a basement membrane substitute or as a temporary graft. It has antiinflammatory and anti-scarring effects and contains growth factors that promote epithelial wound healing on the surface of the eye, inhibit the hyperplasia of fibrovascular tissue and the formation of neovascularization. Objective: To determine the characteristics of patients treated with amniotic membrane transplantation.

Method

This study design was a cross sectional study with total sampling. The population in this study were all patients treated with amniotic transplantation at Mencirim 77 Eye Hospital in May to December 2019 and the data was analyzed by SPSS.

Result

There were 13 subjects included in this study. 11 subjects were males and 2 subjects were females with the average age of 40.2 years. Based on the analyzed result, the most common presenting symptom was blur vision (92.3%). The majority of patients present with decreased visual acuity which categorized as blindness (92.3%). The most common predisposing factor were ocular trauma (84.6%), keratitis ulcerative (76.9%) and using traditional medicine (46.2%).

Conclusion

From the result of this study, it can be concluded that males contributes of all patients treated with amnion transplantation. Most patients came with symptoms of decreased vision and poor visual function. The most common predisposing factor was ocular trauma.

Keyword

Amnion, Characteristics

Category

Free Paper Presentation

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July 21, 2020

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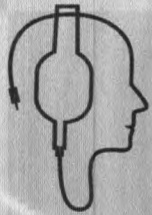
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2020



CERTIFICATE OF PARTICIPATION

this is to certify that

MUHAMMAD SYAUQIE, MD

has participated as

First Author of Free Paper

Effect Of Hormonal Contraception On The Tear Film And Ocular Surface

AT PERDAMI VIRTUAL SCIENTIFIC MEETING

September 18-27. 2020



FP-IIM-01

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Effect Of Hormonal Contraception On The Tear Film And Ocular Surface

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INTRODUCTION

Dry eye syndrome (DES):
a common multifactorial
disease of the tears and the
ocular surface



Significantly diminish
visual function and
quality of life



INTRODUCTION

Prevalence increases in both genders with age

Higher incidence among females and after the menopause

- Role of sex hormones (Androgens, Progestin, and Estrogens)



Sex Hormones

Present in the epithelial cells of the lacrimal gland, meibomian gland, lid, palpebral and bulbar conjunctivae



The hormonal imbalance that influences tear physiology may be manifested with the use of hormonal contraceptives or menopause

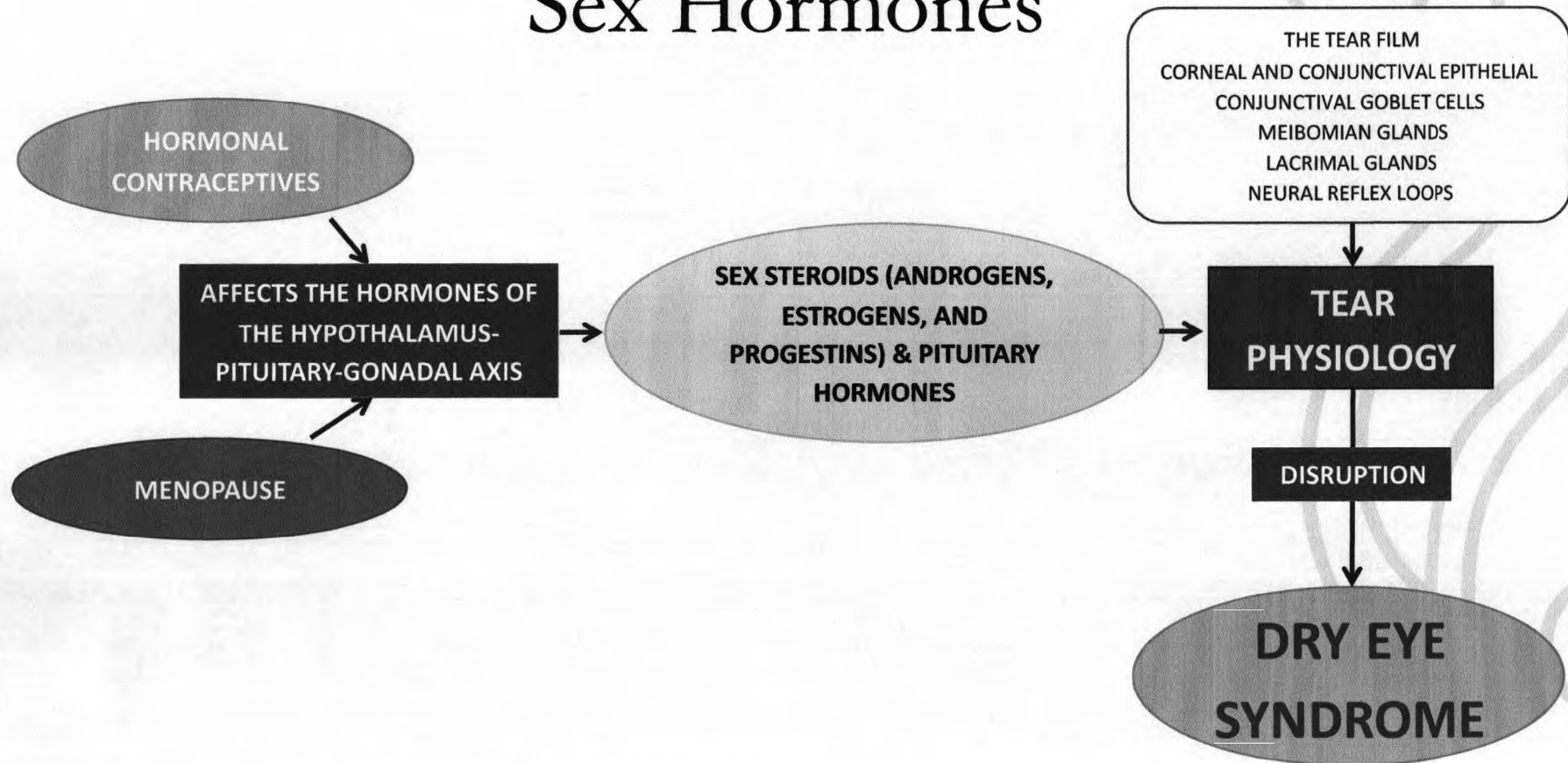


Influence multiple structural and functional aspects of the eye



Sex hormones has been related to the onset and development of ocular surface disease and DES

Sex Hormones



INTRODUCTION

- Hormonal contraception involved 88,15% from more than 20 million contraception users in Indonesia
- The two most common methods were injection and combined oral contraception
- The safety profile of this type of contraception must be assessed, especially to the tear film and ocular surface
-





Methods

Design	Cross Sectional
Subject of study	Employees and patients at the Andalas University Teaching Hospital
Sample	56 healthy women of childbearing ages (20-45 y.o) 28 females of experimental group 28 females of control group
Inclusion criteria	Women of childbearing ages (20-45 y.o) who were using hormonal contraceptives in the form of combined oral contraceptives, injection, or subdermal implant for at least one year were enrolled in the experimental group Women aged (20-45 y.o) who did not use any hormonal contraception enrolled in control group
Exclusion criteria	women with ocular surface infection and inflammation, eyelid abnormalities, diabetes, and autoimmune diseases and current consuming oral β -blocker, antihistamine, and psychoactive drugs, history of ocular trauma or surgery, contact lenses wearers, pregnant, under topical eye drops, menopausal and post-menopausal



Procedure

Collecting information (Demographic, hormonal contraception use history, contact lens wear, ocular history, past medical and surgical history, current systemic and ophthalmic medications)

Ocular Surface Disease Index (OSDI) questionnaire interview

Slit-lamp examination

Schirmer's I test

Tear break up time test (TBUT)

Ocular surface impression cytology test



Statistical Analysis

- T-tests for OSDI scores, Schirmer's I test, and TBUT result.
- Impression cytology grades and dry eye grades based on the OSDI score were assessed with Fisher's exact test.
- P-value <0.05 was taken as significant.

RESULTS & DISCUSSION

- This study involved 56 women in the reproductive age group, which divided into two groups.
- Injection hormonal contraception was the most common method, contained *Depot Medroxyprogesterone Acetate* (DMPA), which was a progesterone hormone.
- Combined oral contraceptives were the second commonly used, contained Ethinylestradiol and Levonorgestrel, which were a combination of estrogen and progestins.
- The subdermal implant was the less common, which contained levonorgestrel.

Participants age & Type of agents

Table 1. Demographics of participants age and hormonal contraceptive agent used.

Group of age	Group	
	Experimental	Control
20-30 y.o.	6 (21.4%)	15 (53.6%)
31-40 y.o.	12 (42.9%)	11 (39.3%)
41-50 y.o.	10 (35.7%)	2 (7.1%)
Mean age	35.96 ± 6.563	31.57 ± 5.607
Hormonal contraceptive agent	User	
	Combined oral contraceptives	7 (25%)
	Injection	16 (57.1%)
	Subdermal implant	5 (17.9%)

Table 2. Mean value of the Schirmer test and TBUT between groups.

Group	Mean Schirmer	p	Mean TBUT	p
Experimental	22.71 ± 13.341	0.645	10.76 ± 4.976	0.274
Control	24.18 ± 10.063		12.35 ± 5.790	

No significant differences in the tears secretion and tears stability between two groups, similar with study by Tomlinson et al & Idu et al

Sharma et al → significant decrease in tear secretion on women using oral hormonal contraceptives (13±3 mm) compared to the control group (31±7 mm/5min), p=0.00. But no significant difference in TBUT value between the two groups

Tomlinson A, Pearce EI, Simmons PA, Blades K. Effect of oral contraceptives on tear physiology. *Ophthalmic and Physiological Optics*. 2001;21(1):9-16.

Kemdinum Idu F, Osita Emina M, Oyem Ubaru C. Tear secretion and tear stability of women on hormonal contraceptives. *Journal of Optometry*. 2013;5(5):50.

Sharma A, Porwal S, Tyagi M. Effect of oral contraceptives on tear film in reproductive age group. *Indian Journal of Ophthalmology*. 2011;59(1):50-53.

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Table 3. Mean value of Schirmer test and TBUT between hormonal contraceptive agent used.

Hormonal contraceptive agent	Mean Schirmer	p	Mean TBUT	p
Combined oral contraceptives	31.29 ± 6.99	0.133	12.68 ± 4.93	0.084
Injection	19.19 ± 13.27		8.99 ± 4.46	
Subdermal implant	22.00 ± 17.00		13.73 ± 5.09	

THREE MONTHLY INJECTION
CONTRACEPTION
CONTAINING DMPA



DECREASING THE
ANDROGEN SERUM
LEVEL



REDUCED TEARS
SECRETION & DECREASED
TEAR STABILITY



Table 4. Impression cytology grades between groups.

Impression cytology grade	Group		p
	Experimental	Control	
Grade 0	6 (21.4%)	16 (57.1%)	0.008
Grade 1	15 (53.6%)	12 (42.9%)	
Grade 2	4 (14.3%)	0 (0.0%)	
Grade 3	3 (10.7%)	0 (0.0%)	
Total	28 (100%)	28 (100%)	

All type of hormonal contraceptives inhibits proliferation of ovarian follicles, → decrease in circulating estrogen



Adverse effects on estrogen-sensitive tissues, include of the conjunctiva



The conjunctival proliferation disturbed → squamous metaplasia and inflammation → reduced number of goblet cells

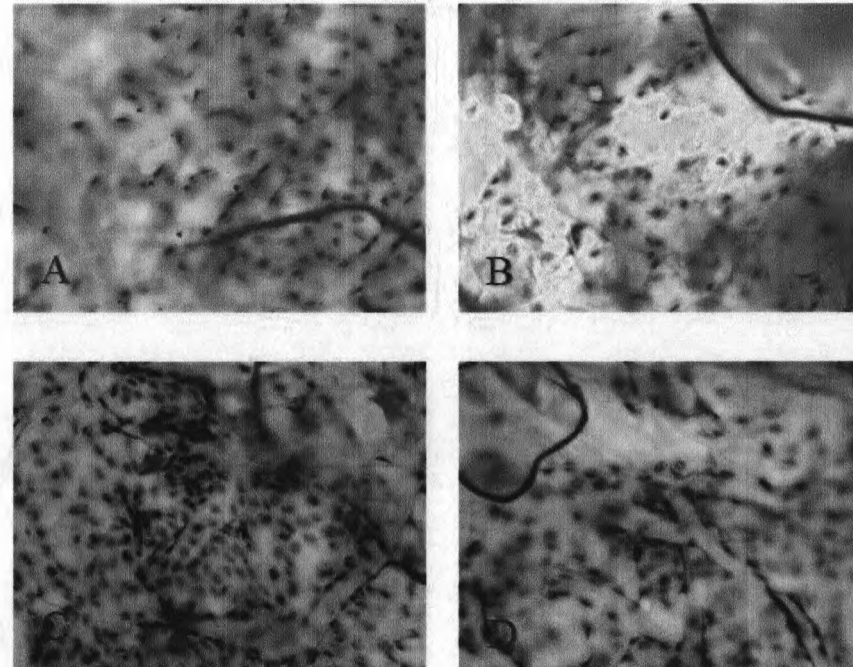


Fig 1. A. Grade 2 of impression cytology in the experimental group. B. Grade 3 of impression cytology in the experimental group. C. Grade 0 of impression cytology in the control group. D. Grade 1 of impression cytology in the control group

Table 5. Mean OSDI scores between groups.

Group	Mean OSDI score	p
Experimental	24.34 ± 23.672	0.210
Control	17.25 ± 17.659	

Mean OSDI score and dry eye severity is higher in the experimental group but not statistically significant

Tabel 6. Dry Eye Disease severity based on the OSDI score between groups.

Dry Eye Disease severity	Group		p
	Experimental	Control	
Normal	12 (42.9%)	14 (50.0%)	0.229
Mild	7 (25.0%)	11 (39.3%)	
Moderate	8 (28.6%)	3 (10.7%)	
Severe	1 (3.6%)	0 (0.0%)	
Total	28 (100%)	28 (100%)	

Chen et al → oral contraceptive doesn't have a meaningful effect on tear osmolarity and dry eye symptoms as measured by OSDI





CONCLUSION

- Hormonal contraceptives had no significant effect on dry eye symptoms, tear secretion, and stability on women of childbearing age.
- Ocular surface alteration found on women using hormonal contraceptives is subclinical and not correlated with symptoms and signs of dysfunctional tear film.
- Further studies may be required to investigate the long term effects of hormonal contraceptives on the ocular surface and dry eye's signs and symptoms.



ACKNOWLEDGEMENT

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