

# A Rare Case Of Recurrent Intraoral Herpes Induced By Hormonal Imbalance Due To Oral Contraceptive Pills

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#### INTRODUCTION

Oral contraceptives induced hormonal imbalance

Immunosuppression
(decreased oestradiol production as antiinflammatory effect)

Effectively managed with combination therapy of oral antiviral and corticosteroid



# Reactivation of Herpes simplex virus (HSV) infection

#### **CASE REPORT**

A 40-year-old woman complained about her 11-year history of mouth sores. She reported recurrent episodes of symptomatic oral vesiculoulcerative lesions in each different site without preceding fever, easily ruptured, leaving painful ulcers that healed within 4-7 days; then the cycle repeated in several days or weeks later. Drug history was significant for combined oral contraceptive pill (COCP) of 0.03 mg Ethyniloestradiol and 0.15 mg Levonorgestrel intake since 16 years ago and a history of amenorrhea in the past 4 years. The pattern occurred several years after she took COCP. She denied the correlation of lesions in other sites of body, UV and environmental exposures correlations, psychological stress, trauma, illness, flavouring agents, foods, or oral hygiene products. Hematology 8 parameter investigation revealed a good result. Serology test for IgG anti-HSV types 1 showed reactive result (45.7 U/mL). Female sex steroid hormonal test showed a low level of oestradiol and progesterone (<5pg/mL and 0.13 ng/mL). The Department of Obstetrics and Gynecology stated that the patient was still in a natural cycle, and we diagnosed her with RIH induced by hormonal imbalance due to COCP.



**Figure 1.** Facial manifestation of melasma due to adverse effect of COCP.



**Figure 2.** Initial oral manifestation of RIH with vesicle and coalescing ulcers.

3 weeks duration of oral acyclovir, 200 mg five times daily, vitamin  $\rm B_{12}$  50  $\mu \rm g$  three times daily, and folic acid 1 mg once daily.







**Figure 3.** All initial lesions were slowly improved, but new lesions still occurred in each different site of oral mucosa in a 3-month follow-up.

From the 5th follow-up, we still gave her the initial drug treatments (oral acyclovir was excluded from 7th follow-up), but combined with oral methylprednisolone 4 mg with dosage of 12 mg daily tapered off by 4mg/week in 2 months





Figure 4. Intraoral lesions resolved in a 3-month-follow-up.

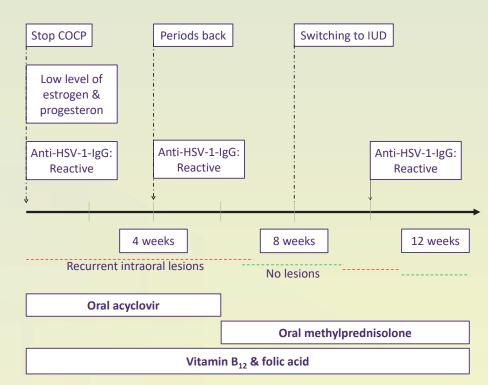
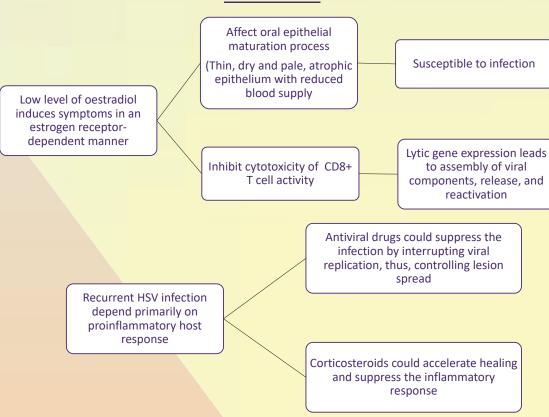


Diagram 1. Clinical course of Recurrent Intraoral Herpes

# **DISCUSSION**



## CONCLUSION

It is important to consider that in some cases, RIH can be induced by hormonal imbalance due to an oral contraceptive. The combination therapy of oral acyclovir-methylprednisolone and switching from oral contraceptive to IUD may be beneficial in the treatment of RIH induced by hormonal imbalance.

## **REFERENCES**

- 1. Taub DD. Neuroendocrine Interactions in the Immune System. Cell Immunol. 2008; 252(1-2): 1-6. Doi: 10.1016/j.cellimm.2008.05.006.
- Giefing-Kroll C, Berger P, Lepperdinger G, Grubeck-Loebenstein B. How Sex and Age Affect Immune Responses, Susceptibility to Infections, and Response to Vaccination. Aging Cell. 2015; 14: 309-321. Doi: 10.1111/acel.12326.
- 3. Egan KP, Wu S, Wigdahl B, Jennings SR. Immunological control of herpes simplex virus infections. J. Neurovirol. 2013; 19:328–345. Doi: 10.1007/s13365-013-0189-3.
- Fleischman DS, Navarrete CD, Fessler DMT.Oral Contraceptives Suppress Ovarian Hormone Production. Psychological Science. 2010; 20(10): 1-3. Doi: 10.1177/0956797610368062.
- Miguel RDV, Sheridan BS, Harvey SAK, Schreiner RS, Hendricks RL, Cherpes TL. 17- Oestradiol Promotion of Herpes Simplex Virus Type 1
  Reactivation Is Estrogen Receptor Dependent. J. Virol. 2010; 84(1): 565–572. doi:10.1128/JVI.01374-09.
- Cherpes TL,Busch JL, Sheridan BS, Harvey SAK, Hendricks RL. Medroxyprogesterone Acetate Inhibits CD8 T Cell Viral-Specific Effector Function and Induces Herpes Simplex Virus Type 1 Reactivation. The Journal of Immunology. 2008; 181: 969 –975. doi: 10.4049/iimmunol.181.2.969.
- Gillgrass AE, Fernandez SA, Rosenthal KL, Kaushic C. Oestradiol Regulates Susceptibility Following Primary Exposure to Genital Herpes Simplex Virus Type 2, while Progesterone Induces Inflammation. J Virol. 2005; 79(5): 3107-3116.
- 8. Miguel RDV, Hendricks RL, Aguirre AJ, Melan MA, Harvey AK, Terry-Allison T, et al. Dendritic Cell Activation and Memory Cell Development are Impaired among Mice Administered Medroxyprogesterone Acetate Prior to Mucosal Herpes Simplex Virus Type 1 Infection. J Immunol. 2012; 189: 3449-3461. Doi: 10.4049/jimmunol.1103054.