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## Comparison of Ocular Surface Findings and Topographical Outcomes According to Rosacea Skin Type

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I do not have any potential conflict of interest...

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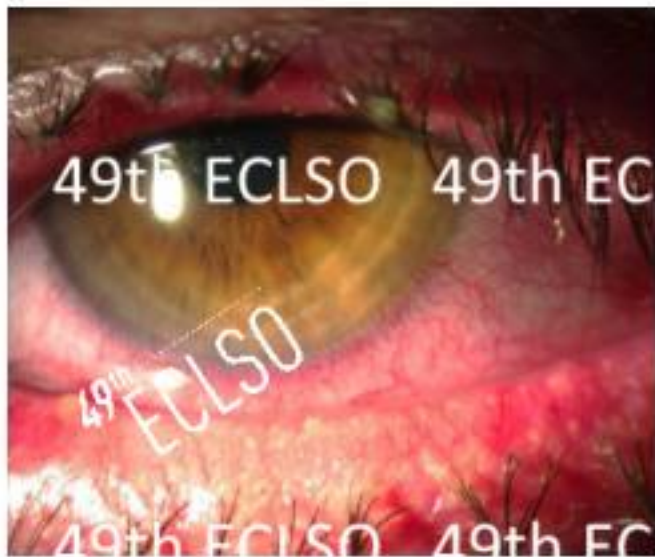
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## Rosacea

- Chronic inflammatory disease
- Mainly affects the central facial skin
- Flushing, transient or persistent rash, inflammatory papules and pustules, telangiectasia and ocular manifestations
- four subtypes:
  - erythematotelangiectatic
  - papulopustular
  - phymatous
  - ocular





Blinding disease



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## Pathophysiology of Rosacea

- Multifactorial etiology
- Genetic predisposition
- Exogenous factors
  - UV, local inflammatory responses to skin microorganisms (associated with demodex), hot, cold, spicy foods, **oxidative stress**
- Deregulation in innate and adaptive immunity
- Neuroinflammatory changes

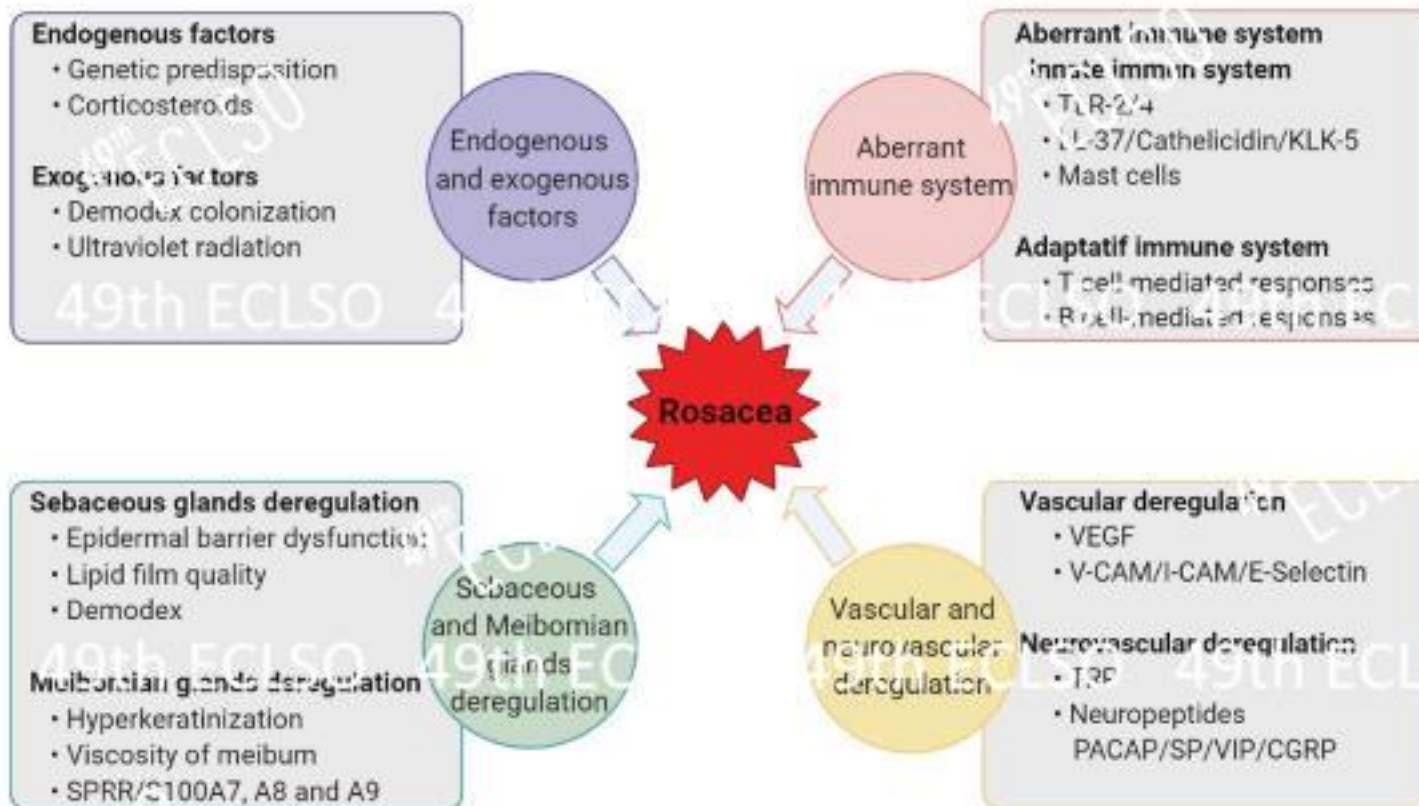
✧ Still not clear

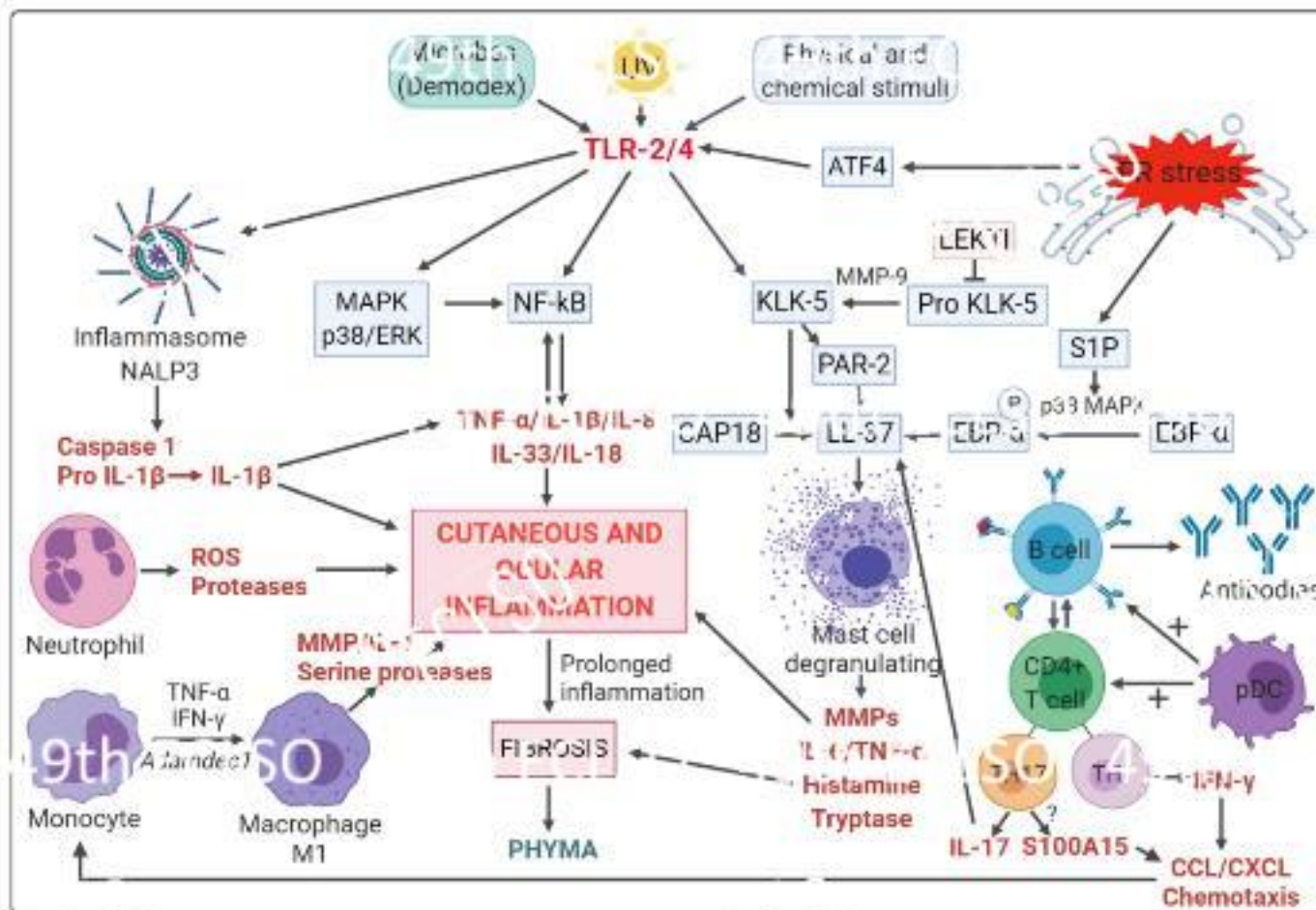
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# Pathophysiology of Rosacea





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## Purpose

- To compare the ocular surface findings and anterior segment parameters according to skin types in patients with rosacea



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## Materials and Method

- 90 eyes of 90 rosacea patients with ocular involvement
- 30 eyes of 30 healthy volunteers
- Main outcomes:
  - BUT
  - Schirmer
  - Meiboscore
  - OSDI
  - RosaQoL

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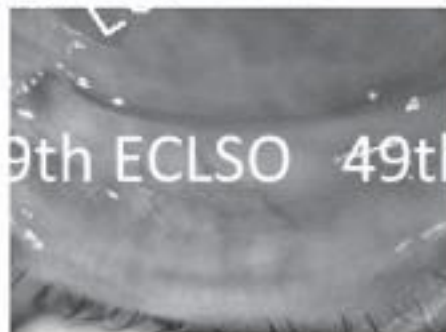
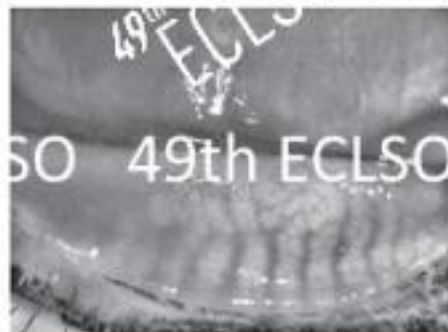
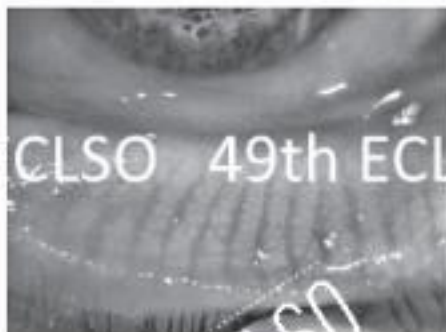
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GRADE 0

GRADE 1

GRADE 2

GRADE 3



### Rosacea-Specific Quality-of-Life Questionnaire (RosaQoL)

"never" (= 0), "seldom" (= 1), "sometimes" (= 2), "often" (= 3), and "always" (= 4)

1. I worry that my rosacea may be serious
2. My rosacea burns or stings
3. I worry about getting scars from my rosacea
4. I worry that my rosacea may get worse
5. I worry about side effects from rosacea medications
6. My rosacea is irritated
7. I am embarrassed by my rosacea
8. I am frustrated by my rosacea
9. My rosacea makes my skin sensitive
10. I am annoyed by my rosacea
11. I am bothered by the appearance of my skin (redness, blotchiness)
12. My rosacea makes me feel self-conscious
13. I try to cover up my rosacea (with makeup)
14. I am bothered by persistence/recurrence of my rosacea
15. I avoid certain foods or drinks because of my rosacea
16. My skin feels bumpy (uneven, not smooth, irregular)
17. My skin flushes
18. My skin gets irritated easily (cosmetics, aftershaves, cleansers)
19. My eyes bother me (feel dry or gritty)
20. I think about my rosacea
21. I avoid certain environments (heat, humidity, etc.) because of my rosacea

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## Materials and Method

- Secondary outcomes:
  - mean keratometry (Kmean)
  - maximum keratometry (Kmax)
  - thinnest corneal thickness (TCT)
  - central corneal thickness (CCT)
  - corneal volume (CV)
  - anterior chamber volume (ACV)

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## Results

- Rosacea patients according to skin type;
  - phymatous (n:15)
  - erythematotelangiectatic (n:45)
  - papulopustular (n:30)
- No age and gender difference between the groups ( $p>0.05$ )
- **BUT**, **Schirmer**, and **Meiboscore** results were more advanced in the **phymatous** group ( $p<0.05$ )
- The **OSDI** score was higher in the **erythematotelangiectatic** group ( $p<0.05$ )
- The **RosaQoL** score was higher in the **papulopustular** group ( $p<0.05$ ).

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## Results

	Phymatous Group	Erythematotelangiectatic Group	Papulopustular Group	Control Group
DIT	3.5 ± 3.5	6.0 ± 4.2	6.0 ± 4.2	13.5 ± 4.3
Schirmer	10.5 ± 2.8	14.4 ± 4.2	13.9 ± 3.1	18.9 ± 4.3
Meiboscore	2.6 ± 0.4	2.1 ± 0.5	2.1 ± 0.8	1.1 ± 0.5
OSDI	38.7 ± 8.4	46 ± 2 ± 7.3	40.3 ± 10.1	18.7 ± 11.6
RosaQoL	45.9 ± 15.9	56.6 ± 11.7	61.4 ± 9.7	-

- There was a highest positive correlation between OSDI and RosaQoL scores in ET group ( $p < 0.05$ )
- All of the scores were significantly better in control group ( $p < 0.05$ )

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## Results

- Anterior segment parameters:
  - Kmax, TCT and CCT were significantly higher in the **phymatous** group compared to the other groups and healthy controls ( $p < 0.01$ )
  - No significant difference between **erythematotelangiectatic** and **papulopustular** groups
  - No significant difference between the groups with respect to CV and ACV

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## Results

	Phymatous Group	Erythematotelangiectatic Group	Papulopustular Group	Control Group
Kmean	43.2±1.2	43.6±1.5	44.1±1.3	43.6±1.5
Kmax	47.8±1.8	45.5±1.5	45.9±1.8	45.1±2.1
TCT	552.3±30.5	534.2±30.9	533.4±31.8	521.3±32.4
CCT	625.9±58.1	562.8±49.7	563.9±44.3	568.6±51.6
CV	53.7±3.4	56.3±3.3	56.9±3.3	55.9±4.1
ACV	150.6±31.9	139.1±32.2	148.8±63.3	147.1±36.3



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## Conclusion

- It was observed that ocular surface findings were more prominent in the **phymatous** type and ocular symptoms were mostly associated with **erythematotelangiectatic** type of rosacea.
- In addition, it was concluded that the corneal surface in patients with **phymatous** type is steeper and thicker compared to other rosacea skin types and healthy controls.

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Thank you for your attention...