



# LOSS OF CLAUDIN-1 EXPRESSION IN PSORIASIS IS ASSOCIATED WITH THE PROLIFERATIVE STATE OF THE KERATINOCYTES

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Poster ID 45

## Introduction

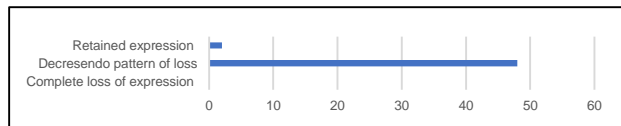
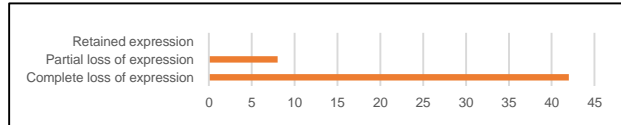
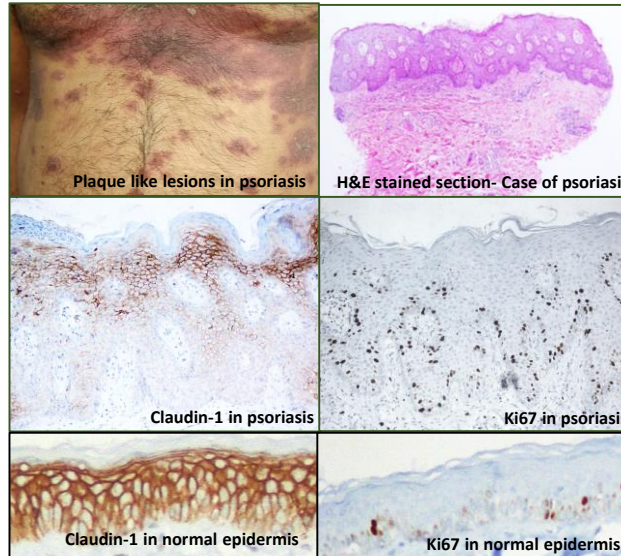
- Psoriasis is a chronic remitting and relapsing inflammatory disease
- Prevalence of 0.44 to 2.5% (India)
- Claudin-1 protein is an integral part of the keratinocyte tight junction
- Claudin-1 has been shown to have a role in proliferation, differentiation and cell adhesion
- Psoriasis - T-cell mediated rapid turnover of epithelial cells

## Aim

- To study the association of expression of Claudin-1 with the proliferation marker Ki67 in psoriasis

## Method

- 50 cases of histological and clinically proven psoriasis were included
- Skin biopsies were immunostained for Claudin-1 (Polyclonal, *Abcam*, dil 1:200) and Ki67 (Clone- MIB-1, *Dako*, dil 1:100) IHC on *Ventana Benchmark XT*
- Claudin-1 expression in basal and spinous layers were scored (2-Lost, 1-partial loss/de-crescendo pattern and 0-retained)
- Ki67 proliferation index was assessed
- Normal skin biopsies were included as controls (10)
- Fisher's Exact Test was applied (*SPSS Ver 25*)



## Results

- Wide age range (14-78) , Mean of 46 yrs
- Male preponderance (4:1)
- Basal cell layer showed complete loss of expression for Claudin-1 in 82 % (n=42)
- Spinous layer showed a de-crescendo pattern of loss of Claudin-1 expression in 96% (n=48)
- Association of loss of expression of Claudin-1 between the basal layer and spinous layer was statistically significant (p=0.0229)
- Association of loss of expression of Claudin-1 and high Ki67 proliferative index was also statistically significant (p<0.00001)

## Conclusion

- Psoriasis shows a consistent loss of Claudin-1 in lower layers of epidermis which is also the site of intense proliferative activity
- Upregulation of Claudin-1 has been shown to have an inhibitory effect on the inflammatory response by neutrophils and hence be effective in treatment of psoriasis
- Drugs such as *Indigo naturalis* and Indirubin have suggested to be effective against psoriasis by upregulating Claudin-1

## References

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