

Recurrent Leukoplakia (Keratinizing White Epithelium) in Congenital Transformation Zone: Clinical Observations

Colposcopy Practice

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Objective

To characterize the recurrent clinical association between congenital transformation zone and leukoplakia (keratinizing white epithelium) observed in routine colposcopic practice.

Methods

A case series study was performed in patients diagnosed with congenital transformation zone during colposcopic evaluation. Three representative clinical cases were selected to illustrate the spectrum of keratinizing epithelial changes within the transformation zone. All patients underwent targeted biopsy and HPV testing. Colposcopic appearance was correlated with histopathological findings and inflammatory status.

Results

Congenital transformation zones consistently demonstrated thin to moderate keratinizing white epithelium resembling leukoplakia. Histological analysis predominantly revealed hyperkeratosis or parakeratosis without evidence of cervical intraepithelial neoplasia. In selected cases, reactive epithelial alterations associated with chronic cervicitis were observed. No invasive lesions were identified. The congenital transformation zone represents a biologically active epithelial interface characterized by prolonged squamous metaplasia and increased proliferative activity. Disordered epithelial maturation may facilitate surface keratinization, accounting for the recurrent clinical appearance of leukoplakia-like lesions in this anatomical setting.

Conclusion

Congenital transformation zone appears to predispose to clinically visible keratinizing epithelial changes secondary to increased epithelial turnover and incomplete maturation. Recognition of this pattern is essential to avoid overtreatment while preserving appropriate biopsy strategies. Further investigation is warranted to clarify the biological mechanisms underlying epithelial keratinization in congenital transformation zone.

