

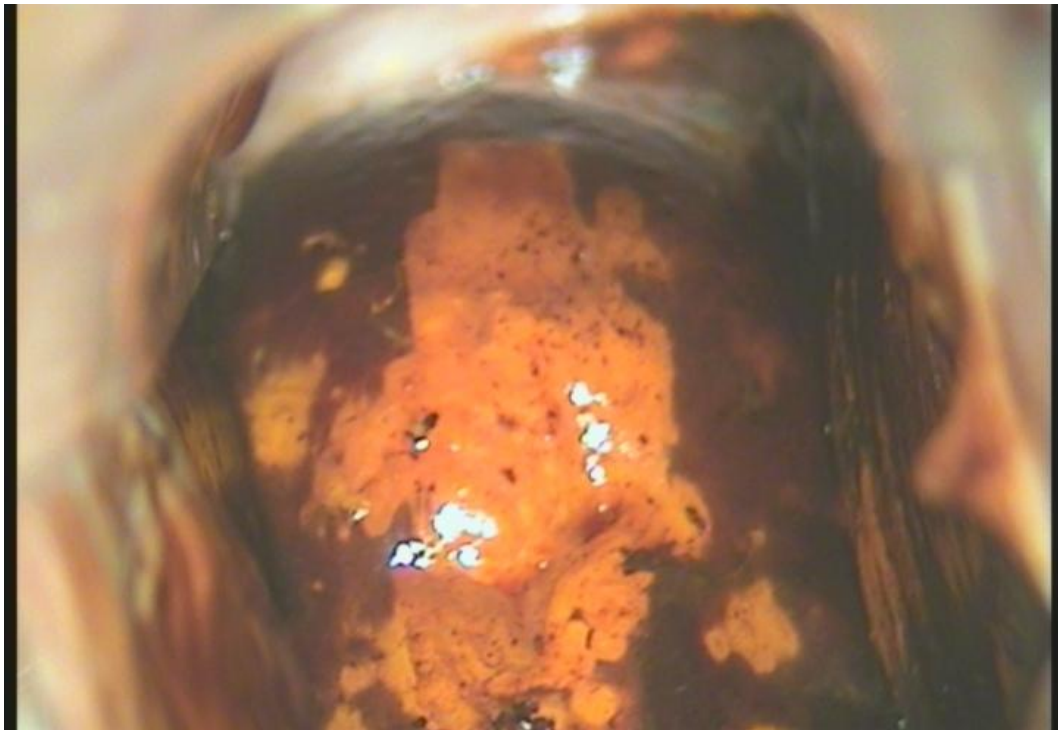
UNCONVENTIONAL TREATMENT FOR INTRAEPITHELIAL CERVICAL NEOPLASIA- CASE REPORT AND LITERATURE REVIEW

Authors: Gabriel-Octavian Olaru^{1,2}, Anca Lesnic², Cristina Moisei², Romina-Marina Sima^{1,2}

1. UMF „Carol Davila”, Bucharest, Romania

2. „St. John” Hospital, „Bucur” Maternity, Bucharest, Romania

Colposcopic images - Lugol and Acetic acid staining – LSIL lesion



Introduction:

The benefits of natural cytotoxic agents, like the extract of Licorice root, are reported by many studies.[1] Licorice polyphenols induce apoptosis in cancer cells, but their use for premalignant lesions are less investigated.

Case report:

We report the case of a 32 years old women nuligesta, HPV 16 positive and persistent LSIL. In may 2015 she underwent ERAD for persistent colposcopic lesions consistent for low grade dysplasia. The histological result was CIN1. HPV remained positive and repeated cytology also remained positive for LSIL. The patient had no other risk factors (no smoking, only one stable sexual partner), and was very anxious asking for a treatment that could heal the cervical lesion and avoid further complications on her obstetrical prognosis. We prescribed a combination of topical and oral treatment with Glycyrrhizic acid derived from Licorice root. Glycyrrhizic acid was reported to act as inhibitor of lipoxygenase and cyclooxygenase, protein kinase C, and to downregulate the epidermal growth factor receptor. After 3 months of treatment we repeated cytology and colposcopy, and the results were negative for intraepithelial or malignant lesions, and only minor colposcopic changes associated with reparation. At one year HPV was negative, cytology and colposcopy were normal.

References

1. Wang ZY¹, Nixon DW. Licorice and cancer. *Nutr Cancer*. 2001;39(1):1-11. DOI: [10.1207/S15327914nc391_1](https://doi.org/10.1207/S15327914nc391_1)
2. Lee CK¹, Park KK, Lim SS, Park JH, Chung WY. Effects of the licorice extract against tumor growth and cisplatin-induced toxicity in a mouse xenograft model of colon cancer. *Biol Pharm Bull*. 2007 Nov;30(11):2191-5
3. Hsu YL¹, Chia CC, Chen PJ, Huang SE, Huang SC, Kuo PL. Shallot and licorice constituent isoliquiritigenin arrests cell cycle progression and induces apoptosis through the induction of ATM/p53 and initiation of the mitochondrial system in human cervical carcinoma HeLa cells. *Mol Nutr Food Res*. 2009 Jul;53(7):826-35. doi: [10.1002/mnfr.200800288](https://doi.org/10.1002/mnfr.200800288).
4. <https://www.shutterstock.com/image-illustration/botanical-watercolor-illustration-medicinal-plant-liquorice-623537177>

Many studies report that Licorice can have anti-inflammatory, antiviral, antiulcer, anticarcinogenesis effects. The Licorice constituents, Glycyrrhizin and aglycone Glycyrrhizic acid, various polyphenols, and polysaccharides are reported to induce apoptosis on some cancerous cells (i.e prostate cancer cells) to protect against carcinogen-induced DNA damage and to act as suppressive agents.[2]

Botanical watercolor illustration of a medicinal plant - Licorice. *Glycyrrhiza glabra* L.[4]



A study from 2009 reported that a licorice constituent – isoliquiritigenin may be a promising chemopreventive agent against cervical cancer by blocking cell cycle progression in the G2/M phase and inducing apoptosis.[3]

Conclusion: Considering the success reported for our patient, Licorice could prove effective in treating intraepithelial lesions of the cervix, and prevent their evolution towards a more severe condition, but more studies are needed in order to confirm the benefits of this unconventional treatment.

