

# Misapplication of Acetic Acid During The Colposcopy: A Case Report

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A vaginal mucosa chemical burn injury because of the misapplication of 98% acetic acid in colposcopic examination, which was treated with local oestrogen and antibiotics safely and efficiently is presented. A 28 years old G0 P0 patient had menorrhagia and Atypic Squamous Cell-High Grade (ASC-H) in her pap smear. During the pelvic examination, myoma uteri was diagnosed, and myomectomy with a colposcopic examination under general anesthesia was planned. In the operation room, instead of 5% acetic acid, 98% acetic acid solution for colposcopic examination was misapplied under general anesthesia. In a few minutes vaginal mucosa was erythematous and bullous because of corrosive vaginal burn injury. Vaginal mucosa was immediately irrigated with saline infusion and treated with local oestrogen and antibiotics. After two weeks, chronic erosive cervicitis was seen on the cervix and no visible sign of erythematous and bullous structure was apparent in the vagina. Full recovery took two weeks. Topical vaginal oestrogen is a safe, convenient and easy to apply treatment option for vaginal chemical burn injuries.

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**Key Words:** Colposcopy, Misapplication of Acetic Acid, Treatment

## Introduction

Three to five percent acetic acid solution is used in colposcopic examinations. Acetic acid cleans the mucosal artifacts and gives the cervix epithelium acetowhiteness, making it easier to direct biopsy. In this case we present a vaginal mucosa chemical burn injury because of the misapplication of 98% acetic acid in colposcopic examination, which was treated with local oestrogen and antibiotics safely and efficiently.

## Case Report

A 28 years old G0 P0 patient had menorrhagia and ASC-H in her pap smear. During the pelvic examination, myoma uteri was diagnosed, a myomectomy and colposcopic examination under general anesthesia was planned. In the operation room, instead of 5% acetic acid, 98% acetic acid solution during colposcopic examination was missapplied under general anesthesia. In a few minutes vaginal mucosa was erythematous and bullous because of corrosive vaginal burn injury. Vaginal mucosa was irrigated with saline infusion copiously and Ovestin® cream (Estriol, Organon, İstanbul) 2 gr. vaginally and Furacin® cream ( Nitrofurazone, Eczacıbaşı, İstanbul) 1

gram was applied. After this application, abdominal myomectomy was performed as planned and the patient was discharged in second day after the operation with ovestin vaginal cream 0.5 gram twice in a day. After two weeks, chronic erosive cervicitis was seen on the cervix and no sign of erythematous and bullous structure was seen in the vagina. Full recovery took two week.

## Discussion

The trivial name acetic acid is the most commonly used and officially preferred name by the International Union of Pure and Applied Chemistry (IUPAC). This name derives from acetum, the Latin word for vinegar. The synonym ethanoic acid is a systematic name that is sometimes used in introductions to chemical nomenclature.

Acetic acid, also known as ethanoic acid, is an organic chemical compound with the formula CH<sub>3</sub>COOH best recognized for giving vinegar its sour taste and pungent smell. Pure, water-free acetic acid is a colourless liquid. Asetic acid is corrosive, and its vapour causes irritation to the eyes, a dry and burning nose, sore throat and congestion to the lungs.

It is widely used in biochemistry for the precipitation of macromolecules such as proteins, DNA and RNA. Its sodium salt is used as a weedkiller. Solutions containing trichloroacetic acid as an ingredient are used for tattoo removal and the treatment of warts, including genital warts.

The female lower urinary tract and vagina are thought to be target tissues for the action of oestrogen, and cytological changes have been observed with physiological variations in hormonal environment and following oestrogen therapy.<sup>1,2</sup>

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Oestrogen exerts its effect on target tissues via specific receptors for oestrogen, which, when activated by the presence of the hormone, modulate transcription of DNA to produce a cellular effect. The action of oestrogen receptors is associated with powerful cellular growth factors such as epidermal growth factor, and insulin like growth factor and one another mechanism by which oestrogen may exert its effect on target tissues is by promoting cell growth and proliferation.<sup>3</sup>

The confirmation at a cellular level of the action of oestrogen as a stimulator of cellular proliferation in the female lower urinary tract and vagina justifies oestrogen as a treatment for symptomatic atrophic changes in these tissues. The most effective therapeutic use of oestrogen in lower urinary tract dysfunction in postmenopausal women is the prevention of recurrent urinary infections.<sup>4</sup> We thought that, oestrogens would heal the vaginal chemical burn injury. Topical vaginal oestrogen is safe, convenient and easy to apply. It restores the vaginal mucosa in postmenopausal women like vaginal burn injury, thereby preventing urinary infections.<sup>5</sup>

## **Kolposkopi Esnasında Asetik Asitin Yanlış Kullanımı: Olgu Sunumu**

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Kolposkopi esnasında %98'lik asetik asitin yanlış kullanımına bağlı vajen mukozasında meydana gelen kimyasal hasarın lokal östrojen ve antibiyotiklerle güvenli ve etkili bir şekilde tedavi edilmesinin sunulması.

28 yaşında Gravida 0 Parite 0, menoraji şikayeti olan hastanın Pap smear testi Atipik skuamoz hücreli- "High Grade" (ASC-H) olarak rapor edildi. Pelvik muayanesi esnasında myoma uteri

tanısı alan hastaya genel anestezi altında myomektomi ve kolposkopik muayene planlandı. Ameliyathanede genel anestezi altındaki kolposkopik muayenede %5'lik yerine %98'lik asetik asit yanlışlıkla kullanıldı. Birkaç dakika içinde koroziv vaginal mukoza hasarına bağlı eritematöz ve büllöz bir görünüm oluştu. Vajen ve serviks mukozası hemen salin solüsyonuyla irrigte edildi, lokal östrojen ve antibiyotik uygulandı. İki hafta sonra servikste kronik eroziv servisit görüntüsü mevcutken, vajende eritematöz ve büllöz görünüme ait herhangi bir bulgu saptanmadı. Vajen mukozasının tamamen iyileşmesi iki hafta sürdü. Vajenin kimyasal yanıklarının tedavisinde lokal östrojen güvenli, uygun ve uygulaması kolay bir tedavi yöntemidir.

**Anahtar Kelimeler:** Kolposkopi, Asetik asitin yanlış kullanımı, Tedavi

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