

## ORIGINAL ARTICLES

# Histopathological study on cervical liquid-based cytological examination of ASCUS

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## Abstract

**Objective:** To explore the results of cervical liquid base for atypical squamous cell histopathology.

**Methods:** A total of 120 cases of patients with atypical squamous cells from July 2015 to July 2016 were selected as the subjects of the study. HPV-DNA testing was intensified in patients with cervical liquid-based cytology.

**Results:** The diagnostic accuracy of CIN was 53.00% (53 cases) in HPV-DNA positive group and 25.00% (5 cases) in HPV-DNA negative group, and the difference was statistically significant in HPV-DNA negative group ( $p < .05$ ).

**Conclusions:** In patients with atypical squamous cell cervical liquid-based cytology test, to strengthen the detection of HPV-DNA can increase the detection rate.

**Key Words:** The cervical liquid based cells, ASCUS, The pathological

There is no specific manifestation in the early stage of cervical lesions, whose main clinical diagnosis relies on the pathological examination of the cervical living tissue, the colposcopy and the smear of the cervix cells. The above three diagnostic methods are all effective, but there are still certain differential in the diagnosis of atypical squamous cell (ASCUS).<sup>[1]</sup> The paper aims to explore the results of cervical liquid base for atypical squamous cell histopathology, and the concrete contents are described as follows.

## 1 Method and materials

### 1.1 General information

A total of 120 cases of patients with atypical squamous cells from July 2015 to July 2016 were selected as the subjects of the study. They are aging 22-54 years old, with an average age of  $(36.89 \pm 3.48)$  years, and all the patients in the study are women. All the study subjects should meet

the following requirement. (1) All patients were diagnosed with atypical squamous cell carcinoma by cervix biopsy. (2) All the patients were informed of the purpose of the study and signed the written consent form. Exclusion criteria: (1) to exclude patients with communication disorders; (2) to exclude patients with severe heart failure; (3) to exclude patients with congenital cervical deformity; (4) to exclude critical patients.

### 1.2 Method

All patients with atypical squamous cells were diagnosed with TLC, and the standard of atypical squamous cell diagnosis includes the following conditions: (1) The nuclei were slightly polluted and the outline was smooth and regular. However, some of the patients showed irregular contour, while the chromatin distribution was more uniform. (2) The cell shape and nucleus were not uniform, and even some patients had dual nucleus cells. (3) The nucleus increased

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obviously. Compared with the normal nucleus, the shape of nucleus of the middle layer increased by 2.5 to 3 times. The detection kit for high risk human papillomavirus was used in this experiment. 14 kinds of high risk types of HPV-DNA were detected by Invader Technology. Positive standard: the testing results  $\geq 5,000$  copies.

### 1.3 Observational index

The diagnostic accuracy of cervical fluid based cells in patients with atypical squamous cells was analyzed.

### 1.4 Statistical method

SPSS 21.0 statistical software was used to deal with the count data and the rate was expressed by the  $\chi^2$  test. The difference was statistically significant with  $p < .05$ .

## 2 Results

Of all the 120 patients with atypical squamous cells, the high risk HPV-DNA negative rate was 16.67% (20 cases), and the positive rate was 83.33% (100 cases). After histopathological examination, 12 cases of CIN III, 12 cases of CIN II, 1 cases of cervical cancer, 19 cases of condyloma, 42 cases of cervicitis and 34 cases of CIN I were found. In the HPV-DNA positive patients, 27 cases (27/100) for patients with inflammation, 19 cases (19/100) for condyloma patients, 30 cases (30/100) for CIN I patients, 11 cases (11/100) for CIN II patients, 12 cases (12/100) for CIN III patients, 1 cases (1/100) for cervical cancer patients. In patients with HPV-DNA negative group, 15 cases (15/20) were inflammatory patients, 4 cases (4/20) were CIN I patients, and 1 case (1/20) was CIN II patients. The diagnostic accuracy of CIN in HPV-DNA positive group was 53% (53/100), while in HPV negative group, the diagnostic accuracy of CIN was 25% (5/20). The difference between the two groups was statistically significant ( $p < .05$ ).

## 3 Discussion

At present, the clinical test technique is difficult to distinguish the patients with atypical squamous cells. It may be tracked to the following causes if there are obvious changes in atypical squamous cells: (1) cervical intraepithelial neoplasia; (2) the influence of intrauterine device; (3) inflammation.<sup>[2,3]</sup> Atypical squamous cell cytology is mainly divided into two types of lesions, malignant or benign. We cannot make an accurate diagnosis of the patient's condition by pathological examination, which indicates the seriousness of the disease only. Clinical studies have confirmed

that atypical squamous cells appear to be at risk of cervical intraepithelial neoplasia when cytological changes occur. Some patients can develop canceration phenomenon.<sup>[4]</sup> Therefore, there are two possible results for the diagnosis of atypical squamous cells. One of which is an over-diagnosis of reactive cytological changes, the other is to underestimate the incidence of precancerous lesions of the cervix. In this study, the results of atypical squamous cell pathology were significantly different.<sup>[5]</sup>

To date, the following methods are commonly used in the diagnosis of atypical squamous cells. (1) Colposcopy examination was performed for patients and guidance of pathological biopsy results was provided; (2) High-risk HPV-DNA detection was carried out for patients; (3) Cytological examination was repeated for many times, and follow-up was strengthened.<sup>[6]</sup> Repeated cytological examination is not widely used clinically since it may cause greater psychological burden and economic pressure for the patients. However, it not only can improve the accuracy of clinical diagnosis during the process of high-risk HPV-DNA detection but also reflect the cytological changes of patients, timely detection of potential cancer patients, is conducive to the clinical treatment.<sup>[7,8]</sup>

In 2006, the study of atypical squamous cell patients was conducted by the foreign society of cervical pathology and the pathological association of colposcopy. It was reported that 2 times of colposcopy, high risk HPV-DNA, and cytological examination were carried out for patients at intervals of 6 months. The results showed that the cytological examination could eliminate the false negative results of the patients, and could effectively prevent the false negative pathology from the missed diagnosis. Therefore, for the patients with cervical lesions, the primary treatment principle is early detection, early diagnosis and early intervention, which is conducive to the recovery of the patient's condition. Through this study, we found that the diagnostic accuracy of CIN in HPV-DNA positive group was 53% (53 cases), while in HPV-DNA negative group, the diagnostic accuracy of CIN was 25% (5 cases). It shows that cervical liquid based cell examination has certain diagnostic value for cervical patients, which not only can make up for the shortcomings of early diagnosis methods, but also timely distinguish the location and nature of cervical lesions, so as to provide an important basis for clinical treatment.

To sum up, in the implementation of cervical liquid based cell examination for patients with atypical squamous cell carcinoma, strengthening the detection of HPV-DNA can reduce the clinical misdiagnosis rate, and provide important basis for clinical treatment.

### Conflicts of Interest Disclosure

The authors have no conflicts of interest related to this article.

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