

Application of foliate receptor-mediated cervical epithelial tissue specific staining in screening cervical

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Abstract Objective To investigate the application value of folate receptor-mediated cervical epithelial tissue specific staining (FRD) in screening cervical cancer.

Methods The screening for cervical cancer was carried out in 800 women using two methods of FRD and human papilloma virus testing for cervical cancer (HPV E6/E7), of whom the patients with FRD or HPV E6/E7 positive received cervical biopsy via colposcopy. Taking pathological results as the golden standard. The diagnostic efficiency of FRD and HPV E6/E7 techniques was compared.

Results The cervical biopsy was performed in 180 cases and pathological coincidence rates for N/A and CIN2: were 69.81% and 89.90% using FRD, which were higher than 41.51% and 67.57% using 1-IPV E6/E7 ($P < 0.05$). For screening cervical lesions of CIN2 or higher, the sensitivity of FRD was similar to that of HPV E6/E7 (88.76% vs. 83.15% ($p < 0.05$)), but specificity of FRD was higher than that of HPV E6/E7 (57.14% vs 38.46%) ($P < 0.05$).

Conclusion Compared to HPV E6/E7 method, FRD technique has the advantages of higher specificity, quicker diagnosis, less cost, and more suitable for screening the cervical lesions of CIN2 or higher.

Key words Folate receptor-mediated, cervical epithelial tissue specific staining; human papilloma virus testing; Cervical cancer

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Analysis of the Results of FRD in the Screening of Cervical Disease

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ABSTRACT Objective To study the results of FRD in the screening of cervical disease, to provide basis for clinical diagnosis and treatment.

Methods 306 cases of cervical disease screening in our hospital from May 2015 to May 2016 were selected, FRD and liquid based cytology test were performed for all patients, two kinds of detection have a positive then do the vagina by pathological examination, pathological examination as the standard, diagnostic value of two kinds of detection methods were compared.

Results The sensitivity of the two detection methods in the screening of cervical precancerous lesions and cervical cancer were 87.6% and 84%, specificity was 69.0% and 63.3%, the diagnostic accordance rate was 79.7% and 75.8%, positive predictive value was 79.2% and 78.4%, negative predictive value was 81.7% and 71.4%, Kappa values were 0.56 and 0.48, the differences were not statistically significant ($P>0.05$).

Conclusion FRD and liquid based cytology test for screening cervical precancerous lesion and cervical cancer has similar effect, but it is easy to operate, and it is worthy of clinical application.

Key words FRD; Liquid based cytology; Cervical disease; Screening results

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Application value of folic acid receptor-mediated diagnosis for cervical lesions

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Abstract Objective To investigate the application value of folate receptor-mediated diagnosis(FRD) for cervical lesions.

Methods A total of 426 gynecological patients were selected, and underwent FRD, Thinprep cytologic test (TCT) and human papilloma virus(HPV) DNA examination. And the biopsy under vaginoscopy was performed at the same time. The histopathological results were taken as the gold standard, and then the diagnostic sensitivity, specificity, positive predictive value and negative predictive value of FRD, TCT or high-risk HPV-DNA examination for cervical lesions were calculated.

Results Eighty-four positive cases were detected by FRD, the positive detection rate was 19.72%, and the sensitivity, specificity, positive predictive value and negative predictive value were 80.77%, 84.25%, 25.00% and 98.54% respectively. Sixty-one positive cases cervical intraepithelial neoplasia (CIN) 2/3 or cervical carcinoma were detected by TCT, the positive detection rate was 14.32 %, and the sensitivity, specificity, positive predictive value and negative predictive value were 79.31%, 90.43%, 37.70% and 98.36% respectively. A total of 115 positive cases were detected by HPV-DNA examination, the positive detection rate was 27.00%, the sensitivity, specificity, positive predictive value and negative predictive value were 82.14%, 81.35%, 40.00% and 96.78% respectively.

Conclusion FRD obtains a reliable clinical diagnostic effect, and is simple, rapid and economical. It can be taken as an effective method for screening cervical lesions in clinical practice when the cytology-based screening method isn't available under the poor medical conditions.

Key words Cervical lesions, Folic acid receptor-mediated diagnosis, Thinprep cytologic test, Human papilloma virus, Vaginoscopy, Diagnosis

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Study on the value of cervical special staining in screening of cervical lesions

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Abstract: Objective To explore the application value of folic acid receptor—mediated cervical special staining in screening of cervical cancer and cervical precancerous lesion.

Methods The patients with one abnormal result of cervical special staining or TCT (positive cervical special staining result, cytology test indicated AGC or \geq LSIL) treated in the hospital from January 2014 to July 2015 were selected; pathological result was designed as gold standard; the clinical diagnostic values of the two method were compared.

Results A total of 204 cases were included; the sensitivities of cervical special staining and TCT were 91.20% and 84.00% , respectively; the specificities were 62.03% and 63.29% , respectively; the diagnostic coincidence rates were 79.90% and 75.98% , respectively; the positive predictive values were 79.17% and 78.36%, respectively; the negative predictive values were 81.67% and 71.43%, respectively; Kappa values were 0.56 and 0.48, respectively. There was no statistically significant difference between cervical special staining and TCT ($P>0.05$).

Conclusion There was no statistically significant difference between cervical special staining and TCT in screening of cervical lesions, but cervical special staining is easier, faster, and cheaper, which is worthy of clinical application.

Key words Folic acid receptor-mediated; Cervical special staining; Cervical cancer; Cervical precancerous lesion; Screening

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Evaluation of folate receptor mediated methylene blue dye as cervical cancer screening algorithms

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Abstract: Objective It is to find out cervical cancer screening algorithms suitable for economically underdeveloped areas or grassroots health institutions, in order to expand the coverage of cervical cancer screening and promote the prevention and control of cervical cancer in China.

Methods 1671 women were voluntary to undergo the cervical cancer screening included Folate receptor mediated methylene blue dye staining (FRD) and Thin-Cytologic Test (TCT). Each woman underwent colposcopy and biopsy or endocervical curettage. Screening results were evaluated by the gold standard based on histopathological diagnosis. The performance indexes of the algorithms such as sensitivity, specificity, positive predictive value, negative predictive value, and receiver operating characteristic (ROC) curve for detecting the high grade lesions (CIN2) were compared.

Results For the FRD as the screening test, its sensitivity was 91.0%, specificity was 75.7%, positive predictive value was 21.4%, and negative predictive value was 99.2%, For the TCT as the screening test, its sensitivity was 79.3%, specificity was 90.4%, the positive predictive value was 37.1%, and the negative predictive value was 98.4%. There was no statistically significant differences in ROC area under the curve between the two methods ($Z=0.559$, $P>0.05$). For the combination test of FRD and TCT as the screening test, the sensitivity, specificity, positive predictive value and negative predictive value were 100.0%, 73.8%, 21.3% and 100.0% respectively. Combination test of FRD and TCT was obviously superior to the screening test of FRD alone, and the difference was statistically significant ($Z=1.825$, $P<0.05$); There was no statistically significant differences between the combination test and TCT alone ($Z=0.797$, $P>0.05$).

Conclusion Screening test of FRD is suitable for underdeveloped regions with large population and grassroots health institutions with insufficient medical technology. Considering the health-resource and women's preference combination test of FRD and TCT may be chosen as the screening approach in the developed.

Key words cervical neoplasm; screening tests; Folate receptor mediated methylene blue dye staining

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Clinical Results of Cervix Special Staining FRD in the Screening of 1652 Cases of Cervical Lesions

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Abstract Objective To investigate the clinical significance of cervix special staining FRD in the detection of abnormal cervical lesions(CIN2+) .

Methods Routine pelvic examination was performed on 1652 patients from the outpatient, and then cervical special staining FRD was used for further examination. The cervical exfoliated cells were collected and fixed onto glasses using thin liquid layer technology. The patients whose FRD cervical special staining was positive or liquid based cytology was greater than ASC-US, were further examined by colposcopy. The clinical diagnosis was according to the lesion changes under colposcopy and the biopsy of acetic acid white staining.

Results Compared with biopsy, the coincidence rates of FRD in detection of CIN1, CIN2, CIN3, infiltrating carcinoma were 66.7%, 75%, 80%, and 100%, respectively. According to histopathologic characteristics of CIN2, the sensitivity of cervix special staining FRD was 79.2%, specificity was 72.7%, and accuracy was 80.4%.

Conclusion The cervix special staining FRD staining is accurate, simple to operate, comprehensive to diagnosis, visual to read results in cervical lesion examination, it can effectively detect cervix lesion in suspicious patients and improve the accuracy of clinical diagnosis.

Key words Cervix special staining (FRD); Cervical lesion; Liquid based cytology

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Research of the significance of special staining of FRD in the detection of cervical lesions

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Abstract: Objective Cervical cancer and precancerous lesions are common female reproductive system diseases. Early diagnosis and prevention is the effective measures for control of cervical lesions progress. This study was designed to explore the significance of cervical special staining of folate receptor mediated FRD in the detection of cervical lesions.

Methods 2743 cases of women for a gynecological examination were selected from January 2013 to December 2013. Cervical special staining of FRD and based thin-layer cell line (TCT) were used for detection. Pathology from vaginoscopy as the gold standard, compare the two detection methods.

Results Pathological CIN2+ of pathology as positive standard, the sensitivity and specificity of cervical special staining was 80.6%, 72.7%, respectively. The positive and negative predictive value of cervical special staining was 76.3%, 77.4%. The sensitivity and specificity of cytology was 83.3%, 42.4%, respectively. The positive and negative predictive value of cytology sensitivity was 61.2%, 70%, respectively.

Conclusion As an accurate, convenient, fast, economic detection method, special staining method has important significance for cervical precancerous lesions, which can be a clinical evaluation standard.

Key words FRD; cervical lesions; sensitivity; cytology; specificity

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Role of application of special staining technique in diagnosis of cervical diseases

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Abstract Objective To investigate the value of the specific staining technique in the diagnosis of cervix diseases.

Methods The specific staining technique and three-step diagnosis procedures were used for screening cervical lesions in 700 patients (432 out-patients and 268 in-patients).The results reported by two techniques were compared.

Results The results reported by the specific staining technique were 354 cases (50.57%) without cervix lesion, 235cases (33.57%) with CIN1 and condyloma acuminata, and 80 cases (11.43%) with CIN2 and CIN3, which were similar to 366 cases (52.29%), 43 cases (34.71%) and 77cases (11.00%), respectively, reported by the three-step diagnosis procedures ($P>0.05$).

Conclusion The diagnosis rates for cervical lesions reported by the specific staining technique and three-step procedures are similar, but the former is simple in making diagnosis, quicker in getting report, cheaper in cost ,and higher accuracy rate of making malignant cervical lesions. The specific staining technique may be taken as a method for the screen of cervical cancer.

Key words Specific staining technique for the cervix; Cervix lesions

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Clinical Significance of FRD in epithelial tissue special staining solution in the examination of cervical lesions

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Abstract Objective To explore the use of cervical special staining of folate receptor mediated FRD clinical value of epithelial tissue special staining solution to inspect the cervical lesion, provide the method reference for the early detection of cervical lesions.

Method From January 2014 to April 2014 jointed national hospital for a gynecological examination randomly 2000 cases of women screening, detection liquid based thin-layer cell line (TCT), human papilloma virus (HPV), FRD staining, the parts in pathology as the gold standard. Please check the histopathology as the gold standard, the diagnosis was the detection method of the evaluation standard.

Result FRD detected 130 cases of patients with positive, positive rate was 6.50%, the sensitivity was 83.06%, specificity was 98.56%, the misdiagnosis rate was 16.94%, the misdiagnosis rate was 1.44%, Kappa=0.821, P=0.000. There were 125 cases of TCT positive patients, the positive rate was 6.255%; the sensitivity was 86.29%, specificity was 99.04%, the misdiagnosis rate was 13.71 %, the misdiagnosis rate was 0.960%, Kappa = 0.850, P = 0.000. There were 120 cases of HPV positive patients, the positive rate was 6%; the sensitivity was 79.84%, specificity was 98.88%, the miss diagnosis rate was 20.16%, the miss diagnosis rate was 1.12%, Kappa = 0.806, P = 0.000. Three methods of inspection detection rate from high to low were FDR, TCT6, HPV, but the positive rate was not significantly difference ($\chi^2 = 0.427$, P = 0.808).

Conclusion TCT>FRD>HPV consistency of three methods but the detection rate has no significant difference, with the traditional TCT, HPV checks the same detection efficiency of the FRD detection method, but its characteristics with more convenience, fast, economy, worth as a rapid screening method for application.

Key words FRD; Epithelial tissue; Cervical lesions

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Application value of folate receptor mediated FRD in diagnosis of cervical intraepithelial neoplasia and cancer

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Abstract: Objective To explore the application value of folate receptor mediated FRD in the diagnosis of cervical intraepithelial neoplasia and cancer.

Method 2013 March to 2013 September, 2528 outpatients and hospitalized patients with gynecological diseases from gynecological clinic were enrolled in this investigation. FRD staining was performed immediately after pelvic examination, cervical cell sampling and colposcopy partly performed comparative analysis of three kinds of results by histological diagnosis standard.

Results 89 cases of positive staining were found and the positive rate was 3.52%. In terms of CIN1, CIN2, CIN3 and cancer, the concordance rate of FRD staining with tissue pathological diagnosis was 66.7% (2/3), 80.0% (4/5), 50.0% (1/2) and 83.3% (5/6) respectively. Given that CIN1 and CIN2+ was abnormal cervical lesion, the sensitivity and specificity of FRD staining was 76.9% and 71.3%. Positive prediction rate was 28.6% and negative prediction rate was 95.4%.

Conclusion FRD staining is a rapid, simple, accurate diagnosis method, has important clinical significance of cervical precancerous lesions, cervical cancer early detection.

Key words FRD; Cervical lesion; Folic acid; Folic acid receptor; Screening; Diagnosis

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