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□□□□□□□□HPV□□□□□□ □□□□□□□

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【摘要】 **目的** □□□ **方法** 2017□6□□□□□□□□□□□□□□□□□□□□□□□托克旗3个农村地□开展以□□□基础□多□心□□□□□□□□共纳入□□对象9 517名□所有□□对象均通过□□采样方法采集2份□□阴道□泌物 □□□ □careHPV□PCR HPV □□□ □ 对 □□ □基 PCR方法□HPV□□ □ 方法 □□ 阴道 □阴道 有□□ □□ □阴道 □ □□□ □□□ □ □ □ **结果** □□□□HPV□□ 1 842□ 21.83% □□□□□□HPV□□ 269□ 24.93% □ 个□□HPV□□□□□□有 □ $\chi^2=5.328$□$P=0.021$ □□□□□□□□ □□样□1□□ 2.83% 30/1 059 □ □□□□ 0.87% 73/8 378 □□□有 □ $\chi^2=33.509$□$P<0.001$ □□□ □□样□2□□以 □ □□□ □ □□□ 1.04% 11/1 059；□□ 0.95% 80/8 378 □$\chi^2=0.069$□$P=0.79$ □ □□□□ □□样□2□□以 □□HR-HPV□□□□ □ □均 HPV16□52□58□□□□□□□□□多 □□□□□□41.37%□44.35%□ □□ □□ □ $\chi^2=0.764$□$P=0.382$ □**结论** □□□□□□HPV□□□□ □□□□□对□□□□□□□□□ □□□□□ □□时□应□□对HPV16□52□58□□ 视□

【关键词】 □□□□□□; 基因□□

基金项目:美□□□医□基 会卫生政□与体系科□公开竞 项目 16-255；□□医□科□院医□与健康科技创新工程项目 2016-I2M-1-019□2017-I2M-1-002

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Comparison of high-risk human papillomavirus infection rate and genotype distribution between Han and Mongolian women

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【**Abstract**】 **Objective**

Methods In June 2017, a multicenter, population-based study for cervical cancer screening in low-resource settings in China was conducted in three rural areas: Xiangyuan and Yangcheng counties in Shanxi province, and Etuoke county in Inner Mongolia Autonomous Region. A total of 9 517 women aged 30−65 years were included in the study, and two cervical and vaginal secretion samples were collected from them for HPV and PCR-based HPV DNA tests. The positive samples in any of two tests were used for PCR-based HPV genotyping test by using Sansure-pioneered One-Step Fast Release technology. Women with positive results in any the HPV tests were referred for colposcopy and punch biopsy was given if cervical intraepithelial neoplasia lesion (low-grade lesion or worse) was suspected in colposcopy evaluation. Endocervical curettage was performed if women had an unsatisfactory colposcopy exam (the squamocolumnar junction was not completely visible). Pathological detection result was used as the golden standard of diagnosis. **Results** HR-HPV infection rates in Han and Mongolian women were 21.83% (1 842/8 438) and 24.93% (269/1 079), respectively. There were statistical differences in HPV infection rates between the two ethnic groups (χ^2=5.328, P=0.021). The detection rate of cervical intraepithelial neoplasia grade 1 in Mongolian women (2.83%) was higher than that in Han women (0.87%), and the difference was statistically significant (χ^2=33.509, P<0.001). There were no significant differences in cervical intraepithelial neoplasia grade 2 or worse detection rate between the two ethnic groups □Mongolian woman: 1.04% (11/1 059), Han Woman: 0.95% (80/8 378), χ^2=0.069, P=0.793□ Among Han and Mongolian women with cervical intraepithelial neoplasia grade 2 or worse, the three most common HR-HPV types were HPV16, HPV52 and HPV58. There was no significant difference for multiple infection rate between Han and Mongolian women (41.37% *vs*. 44.35%, χ^2=0.764, P=0.382). **Conclusions** The results show that HPV infection rate in Mongolian women was higher than that in Han women. Close attention should be paid to HPV16, 52 and 58 in the prevention and control of cervical cancer in Han and Mongolian women.

【**Key words**】 Human papillomavirus; Genotype

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对象与方法

1. □□□ 2017□6□ □国 □ □ □ □ □ /国 □ □□ □WHO/IARC□ □ □ 基 □ □ □□□ □□□ 基 □ □ □ 我国 □ □ □ □ 3 □□ 9 517 30 65 □□□ □ □□□□ □□□ □□ □ □□□□□□□□□□□□本□□□□□国 □ □ □□ □□□□□□□□□

2. □□□ □□□ □□□□□□□ □□□□□ □ 基□ □□□□□□ □2□□ □□□□□□□本□ □□本 □□□国 □ □ □□ □□□□□□□□□□□□□□□□careHPV□PCR HPV□□□□□□□□□ □□□ □□本□□基于PCR □HPV□□□□□□□□HPV□□ □□

3. □

□1□careHPV□□国Qiagen□□□□□□□ □□□□□□□□□□hybrid capture 2□HC2□□□□□□□基于HC2□□□□ 本□□HR-HPV DNA□□ □□□□□□□RNA□□□□□□DNA：RNA□□□□□□□DNA：RNA□□□□□□□□□□DNA：RNA□□□□□□□□□□ □□□□□□□□□□□□□□□□□DNA：RNA□□□□□□ 被□□□DNA：RNA□□□偶 □通□信号大□化□□光 □□□14 种 HR-HPV□HPV16□18□31□33□35□39□45□51□52□56□58□59□66□68□□□但□能单独□□□ □□□□本□□出HPV DNA≥1.0 pg/ml即 □□

□2□PCR HPV□□□湖南圣湘□□ □□限□□□ 15种HR-HPV核□□□试剂盒□湖南圣湘□□ □□限□□□国械注□20163401304□□□PCR HPV□□□□□□该□□ □步 快速

□□□□□□□□□□□□□□□□□□PCR□□□□□□□□□□□□□careHPV□□□□□□□15□HR-HPV□□□HPV16□18□31□33□35□39□45□51□52□53□56□58□59□66□68□□□□□□□□□□□□□□□□□□□□≤39□□□□□

□□HR-HPV□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□20163401295□□careHPV□PCR HPV□□□□□□□□□□□□□□□□PCR□□□HPV□□□□□□□□□□□□□□□□□PCR HPV□□□□□□同□□□□□以上15□HR-HPV□□□□□□

4. 疾□□确诊：□□结果作□最终疾□诊断金□□□均由□□医□□□院肿瘤医院□□专家□盲□下□□读片或质控□□□宫颈管上皮□瘤变命名系统记录诊断结果□□□□正常□宫颈上皮□瘤样变1级□cervical intraepithelial neoplasia grade 1□CIN1□□宫颈上皮□瘤样变2级□cervical intraepithelial neoplasia grade 2□CIN2□□宫颈上皮□瘤样变3级□cervical intraepithelial neoplasia grade 3□CIN3□□宫颈癌□如未达到 □□ □□□□结果□ □以下 □ □□ □正常：careHPV□PCR□□结果均 □□HPV□□ □ 宫颈□变□ □ [4-5]□ □ 正常[6-7]□

5. 统 □□：□ □□□□ □□□ 以 □ □ □%□表示□□□□两民 □□龄□服从正态□布□故以M□P_{25}～P_{75}□□□描述□□同民 HPV感染 □□同□变□出 □ □□χ^2或Fisher exact□验□所□□统 □ 通过SPSS 23.0软件完成□以P＜0.05□差异□统 □□义□所□□验均□双侧□验□

结 果

1. □□□征：共纳入 8 438 □ 1 079 □ □ □□龄□M□P_{25}～P_{75}□□□□47□42～53□岁□48□43～53□岁 □经初潮□龄□□□15□14～16□岁□16□14～17□岁 初次□□□□龄□□□22□21～23□岁□21□20～23□岁□73.11%□6 164/8 431□□ □文化程 □初□ 以上□ □□45.69%□493/1 079□□差异□统 □□义□χ^2＝342.497□P＜0.001□□ □ □□□□ □□征 表1□

2. HPV感染 ： □□HPV感染 □21.83%□1 842/8 438□□ □□24.93%□269/1 079□□两民 差异□统 □□义□χ^2＝5.328□P＝0.021□□HPV52□4.21%□ □最常 □HR-HPV□□□ □□ □19.27%□ 次□HPV58□3.42%□□16□3.09%□□53□2.96%□□68□2.69%□□51□2.39%□□ □最常 □HR-HPV□□□ HPV58□3.34%□□68□3.34%□□52□3.15%□□16□2.78%□□56□2.50%□□53□2.32%□□ □□以下 □□□感染 □ ：HPV18□0.96% *vs.* 1.85%□χ^2＝7.276□P＝0.007□□HPV31□1.27% *vs.* 2.04%□χ^2＝4.251□P＝0.039□□HPV35□0.65% *vs.* 1.58%□χ^2＝10.872□P＝0.001□□HPV45□0.46% *vs.* 0.93%□χ^2＝4.031□P＝0.045□□ 表2□ 两民 □□31～45岁□HPV□龄□感染 □□ □□ □□46岁 HPV感染 上 □ □□50岁 上 □ □上 □□55岁 过同□龄 □□HPV感染 □ 2□□ □ HPV感染 □差□ □≥56岁□龄 □HPV感染 □□□29.50%□36.89%□两 差异□统 □□义□χ^2＝4.585□P＝0.032□□ 表3□

3. 宫颈□变□出 HR-HPV□ □□□布：□□CIN1□CIN2＋□□出 □□□0.87%□73/8 378□□0.95%□80/8 378□ □□□□□2.83%□30/1 059□□1.04%□11/1 059□□两民 CIN1□□出 差异□统 □□义□χ^2＝33.509□P＜0.001□□CIN2＋□出 差异□统 □□义□χ^2＝0.069□P＝0.793□□ 表3□

□宫颈□变□ □ □HPV16感染所 均最 □ 58.82% *vs.* 34.14%□□CIN1□变□ □HR-HPV□□□布 6 次 □HPV16□58□51□52□68□56□□ □ 次□HPV16□56□58□18□51□52□68□□ □HPV16感染所 差异□统 □□义□χ^2＝4.162□P＝0.041□□两民 CIN2＋ □HR-HPV□□□布 □ 3 □

1 □ □□□□□征

变□	(*n*＝8 438)	(*n*＝1 079)
□龄 岁□$M(P_{25}～P_{75})$	47(42～53)	48(43～53)
□经初潮□龄 岁□$M(P_{25}～P_{75})$	15(14～16)	16(14～17)
初次□□□□龄 岁□$M(P_{25}～P_{75})$	22(21～23)	21(20～23)
经□龄 岁□$M(P_{25}～P_{75})$	50(48～52)	49(47～52)
文化程 (%)		
□ 以下	26.89(2 267/8 431)	54.31(586/1 079)
初□ 以上	73.11(6 164/8 431)	45.69(493/1 079)
3□□ (%)		
＜2	98.58(8 313/8 433)	98.60(1 059/1 074)
≥2	1.42(120/8 433)	1.40(15/1 074)

汉 HR-HPV
病 40.14% *vs.* 46.11%, χ^2=2.361, P=0.124 CIN1 50.00% *vs.* 46.43%, χ^2=0.102, P=0.749 CIN2＋ 48.10% *vs.* 27.27%, χ^2=1.689, P=0.194 中 学

讨 论

汉 HPV
, , 汉 ,
HR-HPV 汉
HPV HPV52 58 16 53 68 51
HR-HPV HPV58 68 52
16 56 53 CIN2＋ HR-HPV
3 HPV16 52 58
HPV
中 HPV
c reHPV PCR HPV HPV
, 关 中
HR-HPV患病 HPV 汉
, 内其他 报道一致[9] 中
来自内 自治区鄂托克旗,该地区地域辽阔,人口 散,且 数 、生活 边远牧区,距离医疗机构远,医疗卫生服务 基 中人群 17个荟萃 析 , HPV 呈现双峰现象,农村 双峰 15～24岁 45～49岁[8] 外 同样 , 45～50岁围绝经期会 现HPV 第二 峰[10-11]

基 一致,但由 <30岁年龄组 样 量少,故小年龄组HPV 峰 明 进一步析发现 年龄 50岁之后开始上升,且 汉 上升更 ,

自 人群中HPV52 HPV16 , 内其他 报道 完全一致:一些 ,HPV16 HR-HPV基 [12-14] 而,也有 ,江苏 广东 浙江省HPV52 流行超过HPV16[15-17] 以上 表明HPV 存 地区 尽管 同 HPV16 顺 自 人群中存 ,但有宫颈病 人群中HPV16 首

HPV16 致癌力 强,故其 有宫颈病人群中所占 例 HPV52 58 CIN2＋ 中排 HPV16之后 , 其他 中东亚CIN2 一致[18-19] , 制针对中 HPV预防 疫苗 ,除 宫颈癌 关 HPV16 18 外,还应提 对HPV52 58 视度,进而提 人群 HPV免疫效 ,从而预防宫颈癌 发生

段仙芝等[20] CIN1 CIN2＋ 2.87% 1.80%,CIN1 近,CIN2＋ 中汉 CIN2＋ 学 ,薛[21] 同样 宫颈癌患 中癌患 所占 例,汉 学 但 CIN2＋ 样 , 内外关 宫颈癌发生 一 ree等[22] , 发生宫颈癌 一 明等[23] 同样发现 宫颈病 度 ,HPV 有 ,且 宫颈病 , 会 , 明HPV 汉 ,

族。汉族女性常见的HPV感染型别为HPV52、58、16；蒙古族女性最常见的HR-HPV型别为HPV58、68、52。尽管型别分　　，　　族　　病　的女性CIN2+与HR-HPV型别分　　3　的　　HPV16、52、58，汉族　蒙古族女性　行　的　　，　　HPV16、52、58型的　　。

利益冲突

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