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中老年阴道炎患者阴道毛滴虫感染状况调查分析*

朱荣英¹ 朱艳芳² 付蕊宁¹ 习 静³ 穆星妮⁴

(1 甘肃医学院附属医院妇产科 甘肃 平凉 744099; 2 兰州大学病理学研究所 甘肃 兰州 730000;

3 甘肃医学院附属医院检验科 甘肃 平凉 744099; 4 平凉市崆峒区妇幼保健院妇产科 甘肃 平凉 744000)

摘要 目的:分析中老年阴道炎患者阴道毛滴虫感染情况,为中老年阴道炎的防治提供依据。**方法:**对2016年9月~2019年9月来我院就诊的中老年阴道炎患者的阴道分泌物进行阴道毛滴虫检查,同时通过问卷调查方法收集患者的病历资料,回收有效问卷200份,分析不同年龄、季节、职业、生活习惯、性生活情况患者的阴道毛滴虫感染状况。**结果:**中老年阴道炎患者阴道毛滴虫感染率为10.50%,其中45~50岁年龄段阴道炎患者阴道毛滴虫感染率最高,占19.15%,71~80岁年龄段阴道炎患者阴道毛滴虫感染率最低,占2.78%,不同年龄段阴道炎患者阴道毛滴虫感染率比较有统计学差异($P<0.05$)。春季、夏季阴道毛滴虫感染率显著高于秋季、冬季($P<0.05$)。牧民、农民阴道炎患者阴道毛滴虫感染率显著高于工人和公职人员的感染率($P<0.05$),牧民、农民阴道炎患者阴道毛滴虫感染率无明显差异($P>0.05$)。经常性清洁外阴的阴道炎患者阴道毛滴虫感染率显著低于非经常性清洁外阴的患者($P<0.05$)。有性生活阴道炎患者阴道毛滴虫感染率显著高于无性生活患者($P<0.05$),有性生活应用避孕套的阴道炎患者阴道毛滴虫感染率显著低于不应用避孕套患者($P<0.05$)。**结论:**中老年阴道炎患者阴道毛滴虫感染率较高,春季、夏季是阴道毛滴虫感染的高峰期,中年患者感染率高于老年患者,农民、牧民、服务人员和非经常性清洁外阴的患者阴道毛滴虫感染率较高,且有性生活没有应用避孕套者感染率更高,应做好以上高危人群的防治工作,以降低阴道毛滴虫的感染率。

关键词:阴道毛滴虫;调查分析;中老年;阴道炎

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Investigation and Analysis of Trichomonas Vaginalis Infection in Middle and Old Age Patients with Vaginitis*

ZHU Rong-ying¹, ZHU Yan-fang², FU Rui-ning¹, XI Jing³, MU Xing-ni⁴

(1 Department of Obstetrics and Gynecology, Affiliated Hospital of Gansu Medical College, Pingliang, Gansu, 744099, China;

2 Institute of Pathology, Lanzhou University, Lanzhou, Gansu, 730000, China;

3 Department of Laboratory, Affiliated Hospital of Gansu Medical College, Pingliang, Gansu, 744099, China;

4 Department of Obstetrics and Gynecology, Pingliang Kongtong District Maternal and Child Health Hospital, Pingliang, Gansu, 744000, China)

ABSTRACT Objective: To analyze the infection status of Trichomonas vaginalis in middle and old age patients with vaginitis, and to provide evidence for prevention and treatment of vaginitis in middle and old age. **Methods:** From September 2016 to September 2019, the vagina secretion of the middle-aged and old patients with vaginitis was examined for Trichomonas vaginalis. At the same time, the medical records of the patients were collected by questionnaire survey method, and 200 valid questionnaires were collected to analyze the infection of Trichomonas vaginalis in patients of different ages, seasons, occupations, living habits and sexual life. **Results:** The infection rate of Trichomonas vaginalis was 10.50% in the middle-aged and old patients with vaginitis. The infection rate of Trichomonas vaginalis was the highest in the 45-50-year-old group, accounting for 19.15%. The infection rate of Trichomonas vaginalis was the lowest in the 71-80-year-old group, accounting for 2.78%. The infection rate of Trichomonas vaginalis in spring and summer was significantly higher than that in autumn and winter ($P<0.05$). The infection rate of Trichomonas vaginalis in herdsmen and farmers with vaginitis was significantly higher than that in workers and public officials ($P<0.05$), and there was no significant difference between herdsmen and farmers with vaginitis ($P>0.05$). The infection rate of Trichomonas vaginalis was significantly lower in patients with vaginitis ($P<0.05$). The infection rate of Trichomonas vaginalis in patients with vaginitis was significantly higher than that in patients with asexual life ($P<0.05$). The infection rate of Trichomonas vaginalis in patients with vaginitis using condom was significantly lower than that in patients without condom ($P<0.05$). **Conclusion:** The infection rate of Trichomonas vaginalis is relatively high in middle and old age patients with vaginitis, spring, summer is the peak period of trichomonas vaginalis infection, the rate of infection in middle age patients is higher than that in old age patients, the infection rate of Trichomonas vaginalis is higher in farmers and herdsmen, service personnel and very few

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作者简介: 朱荣英(1970-),女,本科,副主任医师,研究方向: 妇科炎症性疾病, E-mail: zry100362@163.com

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clean vulva and the infection rate of sexual life without condoms is even higher, prevention and treatment of high risk people should be done well, it can reduce the infection rate of *Trichomonas vaginalis*.

Key words: *Trichomonas vaginalis*; Investigation and analysis; Middle and old age vaginitis

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前言

阴道炎是发生于阴道粘膜及粘膜下组织的炎症,在妇科门诊检查中较为常见。据统计约有 75% 的女性一生中至少感染一次阴道炎,给女性健康带来严重困扰^[1]。近年来随着社会的发展和生活方式的改变,我国阴道炎患病率呈升高趋势,引起阴道炎的病原体构成逐渐改变。阴道毛滴虫是一种寄生于人体阴道和泌尿道内厌氧型鞭毛虫^[2]。研究显示,阴道毛滴虫滋养体生存能力较强,在体外干燥条件下可生存 10h 以上,且可通过性传播途径进行传播,引发泌尿生殖系统感染,同时也是导致女性不孕不育的重要原因^[3,4]。为及时了解阴道毛滴虫感染状况,本研究分析中老年阴道炎患者阴道毛滴虫感染情况,现作如下报道。

1 资料和方法

1.1 临床资料

选取 2016 年 9 月~2019 年 9 月来我院就诊的中老年阴道炎患者,纳入标准:(1)所有患者均符合第 7 版《妇产科学》阴道炎诊断标准^[5];(2)年龄 ≥ 45 岁;(3)患者及家属对研究知情同意。排除标准:(1)合并精神疾患、认知功能障碍者;(2)近 3 个月内应用抗生素、激素治疗者;(3)合并糖尿病、免疫系统疾病者;(4)中途退出研究者。患者年龄 45~80 岁,平均年龄(57.97 $\pm$ 8.84)岁。职业分布:农民 48 例,牧民 38 例,工人 27 例,公职人员 25 例,服务业 62 例。性生活情况:有性生活 133 例,无性生活 67 例。

1.2 研究方法

(1)问卷调查:问卷内容包括年龄、性生活情况、职业、有无避孕、避孕措施、外阴清洁习惯等内容,所有患者均需填写。所有问卷均经医院专业医生设计,调查员均于调查前统一进行培训。共发放问卷 206 份,回收有效问卷 200 份,回收率 97.09%。(2)阴道分泌物检查:依据《全国临床检验操作规程》^[6]进行阴道分泌物检测,应用医用灭菌一次性棉拭子在阴道后穹窿及阴道侧壁 1/3 处旋转取阴道分泌物,将分泌物置于含有 0.9%氯化钠液体的试管中,立即送检,将含有阴道分泌物的氯化钠溶液涂在载玻片上,置于低倍镜视野下进行筛查,并在高倍镜下观察,当观察到毛滴虫后即可确认为阴道毛滴虫感染。

1.3 观察指标

分析不同年龄、季节、职业、生活习惯、性生活情况患者阴道毛滴虫感染状况。

1.4 统计学方法

所有数据分析采用 SPSS23.0 统计软件,计数资料以率(%)表示,实施卡方检验, $P<0.05$ 为差异有统计学意义。

2 结果

2.1 不同年龄段阴道炎患者阴道毛滴虫感染率比较

中老年阴道炎患者阴道毛滴虫感染率为 10.50%,其中 45~50 岁年龄段阴道炎患者阴道毛滴虫感染率最高,占 19.15%,71~80 岁年龄段阴道炎患者阴道毛滴虫感染率最低,占 2.78%,不同年龄段阴道炎患者阴道毛滴虫感染率比较有统计学差异($\chi^2=7.897$, $P=0.048$),见表 1。

表 1 不同年龄段中老年阴道炎患者阴道毛滴虫感染率比较

Table 1 Comparison of infection rate of *Trichomonas vaginalis* among vaginitis patients of different ages

Age group(year)	n	Number of infections	Infection rate(%)
45~50	47	9	19.15
51~60	62	8	12.90
61~70	55	3	5.45
71~80	36	1	2.78
Total	200	21	10.50

2.2 不同季节阴道炎患者阴道毛滴虫感染情况比较

不同季节阴道炎患者阴道毛滴虫感染率比较差异有统计学意义($\chi^2=8.661$, $P=0.034$),春季、夏季阴道毛滴虫感染率为 16.98%、16.32%,感染率显著高于秋季、冬季($P<0.05$),见表 2。

2.3 不同职业阴道炎患者阴道毛滴虫感染情况比较

不同职业阴道炎患者阴道毛滴虫感染率比较差异有统计学意义($\chi^2=8.273$, $P=0.046$),牧民、农民、服务业阴道炎患者阴道毛滴虫感染率显著高于公职人员的感染率($P<0.05$),牧民、农民阴道炎患者阴道毛滴虫感染率显著高于工人的感染率

($P<0.05$),牧民、农民阴道炎患者阴道毛滴虫感染率无明显差异($P>0.05$),见表 3。

2.4 不同卫生习惯阴道炎患者阴道毛滴虫感染情况比较

经常性清洁外阴的阴道炎患者阴道毛滴虫感染率显著低于非经常性清洁外阴的患者($\chi^2=5.492$, $P=0.019$),见表 4。

2.5 不同性生活情况阴道炎患者阴道毛滴虫感染情况比较

有性生活阴道炎患者阴道毛滴虫感染率显著高于无性生活患者($P<0.05$),有性生活应用避孕套的阴道炎患者阴道毛滴虫感染率显著低于不应用避孕套患者($P<0.05$),见表 5。

表 2 不同季节阴道炎患者阴道毛滴虫感染情况比较

Table 2 Comparison of Trichomonas vaginalis infection in different seasons

Season	n	Number of infections	Infection rate(%)
Spring	53	9	16.98* [#]
Summer	49	8	16.32* [#]
Autumn	56	3	5.36
Winter	42	1	2.38
Total	200	21	10.50

Note: compared with autumn, * $P < 0.05$, compared with winter, [#] $P < 0.05$.

表 3 不同职业阴道炎患者阴道毛滴虫感染情况比较

Table 3 Comparison of Trichomonas vaginalis infection among vaginitis patients with different occupations

Occupation	n	Number of infections	Infection rate(%)
Farmer	48	7	14.58* [#]
Herdsmen	38	6	15.79* [#]
Worker	27	2	7.41
Public officer	25	1	4.00
Service industry	62	5	8.06 [#]
Total	200	21	10.50

Note: compared with workers, * $P < 0.05$; compared with intellectuals, [#] $P < 0.05$.

表 4 不同卫生习惯阴道炎患者阴道毛滴虫感染情况比较

Table 4 Comparison of Trichomonas vaginalis infection among vaginitis patients with different health habits

Vulva cleaning	n	Number of infections	Infection rate(%)
Regular cleaning	86	4	4.65
Non frequent cleaning	114	17	14.91
Total	200	21	10.50

表 5 不同性生活情况阴道炎患者阴道毛滴虫感染情况比较

Table 5 Comparison of Trichomonas vaginalis infection among vaginitis patients with different sexual lives

Sexual life	n	Number of infections	Infection rate(%)
Sexual life	133	18	13.53*
Condom application	56	4	7.14 [#]
No condom	77	14	18.18*
Sexless Life	67	3	4.48

Note: compared with non-sexual life, * $P < 0.05$, compared with no condom use, [#] $P < 0.05$.

3 讨论

阴道毛滴虫是一种生存能力很强的厌氧型鞭毛虫,一般在 25℃~42℃环境下能够生存,在体外干燥条件下可生存 10h 以上^[7]。人体感染阴道毛滴虫后可出现泌尿生殖道感染,对女性身体健康造成危害。在上世纪 50 年代,我国阴道毛滴虫感染率以及流行情况均处于较低水平^[8,9]。近年来,随着我国经济的发展、人们生活习惯的改变,性开放观念的开放,我国阴道毛滴虫感染率逐年递增,现已成为非淋菌性泌尿生殖道感染中不可忽视的病原体。尤其是中老年阴道炎患者,由于机体雌激素水平发生变化,阴道炎的病原体可能发生变化^[10-12]。有调查显示,目前我国阴道毛滴虫感染率为 2.06%~6.28%,占阴道炎病原体的

3.78%~9.26%,农村阴道毛滴虫感染率较高,城市阴道毛滴虫感染率较低,不同地区阴道毛滴虫感染率不同^[13],但关于中老年阴道炎阴道毛滴虫感染情况缺乏系统研究。

本研究对 200 例中老年阴道炎患者的调查显示,中老年阴道炎患者阴道毛滴虫感染率为 10.50%,高于全国平均水平的 2.06%~6.28%。其原因可能是:(1)本地区属于泾渭河冷温带亚湿润区,气候炎热潮湿,适于阴道毛滴虫生长繁殖;(2)本地区内有丰富的河流,水资源丰富,适于阴道毛滴虫生长繁殖^[14-16];(3)本地区林业、牧业、农业资源丰富,居民对阴道毛滴虫防范意识不够,因此本地区中老年阴道炎患者阴道毛滴虫感染率较高。从不同年龄段中老年阴道炎患者阴道毛滴虫感染率比较来看,45~50 岁年龄段阴道炎患者阴道毛滴虫感染率最高,为

19.15%,其次是51~60岁年龄段阴道炎患者,这可能是由于该年龄段人群性生活较老年群体更为频繁,然而老年阴道炎患者仍存在一定比例的阴道毛滴虫感染率,这可能主要与老年人激素、免疫力均较低有关^[17-19]。在人体正常生理情况下,女性阴道呈微酸性,加之性激素水平和免疫力等,形成女性生殖道的免疫屏障^[20-22]。老年人雌激素水平降低,阴道微环境发生改变,使得生殖环境适合阴道毛滴虫生长,故仍有一定的阴道毛滴虫感染率^[23-25]。对不同季节阴道毛滴虫感染情况予以比较,春季、夏季阴道毛滴虫感染率分别为16.98%、16.32%,感染率显著高于秋季、冬季。提示阴道毛滴虫感染高发于春季、夏季,这可能与春季、夏季气候湿润、适合阴道毛滴虫繁殖有关^[26-28]。因此女性在春季、夏季应重视阴道毛滴虫的预防。

另外阴道毛滴虫感染的职业分布研究表明,牧民阴道炎患者阴道毛滴虫感染率最高为15.79%、其次农民感染率为14.58%,服务业感染率为8.06%,牧民、农民阴道炎患者阴道毛滴虫感染率显著高于工人和公职人员的感染率。这可能与不同职业人群受教育程度不同、生活习惯、外阴清洁习惯不同有关^[29,30]。同时从本研究结果来看,经常性清洁外阴的阴道炎患者阴道毛滴虫感染率显著低于非经常性清洁外阴的患者,也证实良好的生活习惯有助于降低阴道毛滴虫感染率,因此在临床工作中应加强泌尿生殖系统疾病的科普教育,提高广大居民对泌尿生殖系统感染的预防意识,降低阴道毛滴虫感染率。本研究结果显示有性生活阴道炎患者阴道毛滴虫感染率显著高于无性生活患者,应用避孕套的阴道炎患者阴道毛滴虫感染率显著低于不应用避孕套患者。因此对于有性生活的女性应注意对该虫株感染的防治,在性生活中应注意个人卫生习惯,在避孕方式方面尽可能选择优质避孕套进行避孕,可以在一定程度上降低阴道毛滴虫感染风险。

综上所述,中老年阴道炎患者阴道毛滴虫感染率较高,春季、夏季是阴道毛滴虫感染的高峰期,中年患者感染率高于老年患者,农民、牧民、服务人员和非经常性清洁外阴的患者阴道毛滴虫感染率较高,且有性生活没有应用避孕套者感染率更高,应做好以上高危人群的防治工作,以降低阴道毛滴虫的感染率。

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