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Diagnosis all types of candida vaginitis by Para clinical methods comparison it with clinical symptoms in Dezful, 2014

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ABSTRACT

Vaginitis is one of the most prevalent problems in clinical medicine, each year millions of people are affects by it . among various types of vaginitis, candida type is one of the most common approximated prevalence of 30% . present .this study was conducted to diagnose various types of vaginitis and to investigate amount of correspond between clinical symptoms and laboratory results.

Research Method: This is a descriptive – analytical study which was conducted on November, (2013) by sampling secretions of cervix opening of 200 women suspected to vaginitis and laboratory investigating based on Germ tube test at temperature 45° Celsius , corn meal test and growth in chrome Agar environment. Other information obtained by questionnaire. Spearman's correlational method, non – parametric mean – comparison test by kruskal – wallis method and SPSS16 software are being used. To investigate all statistical results.

Findings: In this study, 50 patients who had positive fungal culture, Itching was observed in 51% of studied women as the most prevalent clinical symptom, followed by caseous secretions with 42/5% , Dyspareunia 38/5% and irritation by 32/5% The most prevalent from patients are: C[1].Albicans (62%), Glabrata (18%), Dubliniensis (12%), Krusei (4%), Trvpykalyys (2%) and Parapsilosis (2%). There was no meaningful relationship between demographical information and susceptible factors of illness with vaginitis while there was a meaningful relationship between clinical symptoms such as itching and , irritation with vaginitis.

Conclusion: Considering the fact that a quarter of people suspected to infection identified through culturing candid vaginitis and that clinical symptoms are only major factors available for diagnosis, it is suggested to use valid Para clinical methods such as culture to reach an accurate diagnosis in patients.

KEYWORDS: Vaginitis – Candida types – Diagnosis.

INTRODUCTION

Vaginitis means vaginal inflammation and infection accompanied by symptoms such as: itching, irritating, Leukorrhea dyspareunia and unusual stinky secretions. (1) According to definition of WHO, candida, Trichomonas and bacterial are three main reasons of vaginitis and cause 90% of vaginal infections and Candida vaginitis is one of the most prevalent vaginitis in women. (2-4). It is estimated that 75% of women are affected by it in their life time once, 45% twice and almost 5% four times or more (5). Today, Candida is known as second factor of vaginal infections in united states. (6)

Candida vaginitis develops by various kinds of candida, particularly C[1].Albicans .(7-8) candida albican are seen from 10-80% of women without clinical symptoms as natural flora of vagina (9-10). Also, this candida is responsible for 85-90% of fungal cases of vagina (5). Other types of candida including C. Glabrate, C.krusei,C. Tripykalyys and C.Parapsilosis are responsible for this infection (11). Pregnancy antibiotics, cortictostervoids us and contraceptives , HIV, obesity and anxiety are factors also responsible for developing illness (12). Although it is not life threatening, but causes developing symptoms in patients, wasting time and money for treatment (13).

The aim of this study is to identify various types obtained from patients suffering candida vaginitis and to determine its reasons, using par clinical methods and investigating relationship between demographic indices regarding candida.

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MATERIALS AND METHODS

In order to do this descriptive – analytical study, sampling was done through coordinating with some states and private clinics in Dezful, midwives and doctors, and by observing hygienic principals and medical morals.

Having 200 patient's consent, sampling started based on doctor's or midwives' decision and with attention to symptoms of vaginitis such as itching, secretion, irritation lower stomach pain , the whole procedure was explained to patients where it was necessary to do so.

Conditions of study are: marriage, lack of any vaginal bleeding, lack of using any kind of vaginal cream or suppository during past 48 hours.

Tools of data collecting includes data collection form containing patient's demographic information (age – job – education), information related to records of infection and using drugs to treat during last year, clinical symptoms and prevention methods including condom, contraceptives and natural prevention.

Statistical analysis based on correlation coefficients and nonparametric test of mean comparison are done using Spearrnan's correlation (Spearman's rho) and kruskal – wallis (Spss 16) software method, respectively.

In order to sample, patient first was placed at lithotomy position and vaginal secretions were sampled by speculum and sterile swab. Two samples of swabs were prepared from every patient. First swab to making smear , Was directly contacted on Lam and Gimsa method used for coloring. Second swab was also placed in tubes containing 0/5 cc saburoekstroz berath for better growth and nutrition of fungi, and was incubated for 24 hour at 30 Celsius then cultured at saburo dekstrozagar environment containing chloramphenicol (50 g / liter).

External characteristics of colony – test method of Germ tube – growth at temperature 45°-clamido Test and chromagar test are used to identify various types of fungi and are as follow:

Generatrix tube test is a Golden standard method for diagnosing candida albicans in which Observing germ tube considered in the interests of candida albicans.

- Growth at temperature of 45° is a method for separating candida albicans from non – albicans, in this method, a small part of grown colony in Saburodextrose environment was cultured in another Saburodex troseagar environment in a linear and shallow manner, and incubated at 45°C. Then it was studied during 24 and 48 hour in terms of growth and lack of growth then grown fungi were determined as albicans fungi (14).

2. Performing chlamydospore test in order to distinct candida albicans types from non-albicans . in this method candida albicans generate chlamydospore and pseudohyphae and non-albicans types would not generates chlamydospore. They just produce pseudohyphae and blastospore.In this environment Candida Glabrata grows just as yeast cell (15).

Finally, culture in chrom agar environment was used to diagnose candida types; cultured samples in chromagar environment were placed in incubator at temperature 37°c for 24-48 hours. Then, considering the colors, albicans and non-albicans types were separated (chromagar medium is one of the differential mediums for determining types of candida, and candida types would be separated according to color of the colony).

Findings:

In this study, number of patients in the age group of 20-29 years old have the most frequency (42 percent) and patients younger than 20 years old have the lowest frequency by 2/5% .in terms of education , 67.5% of patient and 66.5% of their husbands , are high school graduate or lower education. with attention to suspected to vaginitis people's education, amount of 67/5% of people had diploma degree and lower degree and 66/5% of their husbands also had diploma degree of lower.

Table 1: Frequency distribution and percentage of age of people suspected to vaginitis.

percentage	Obsolete frequency		
2.5	5	Under 20 years old	**age**
42.0	84	20-29	
35.5	71	30-39	
17.0	34	40-49	
3.0	6	50 year and older	
100.0	**200**	**total**	

Among 200 samples from peoples with clinical symptoms, were positive through direct test and culture 25% of samples based on demographic information including age, habitant, education and occupation reflected on table 2; there was no meaningful relationship between coefficients and candida vaginitis based on correlation method (p > 0/05). It is shown by investigating reasons of vaginitis including methods of preventing pregnancy – record infection and treatment during past year, (p > 0/05). That there is no meaningful relationship between mentioned coefficients and suffering from vaginitis. While regarding clinical symptoms, considering the fact that itching (%51) – secretions (42/5%) had highest frequency, it's shown that there is a meaningful correlation between itching – secretions and irritation with suffering from fungus (p > 0/05).

Table 2: Correlation Coefficients between investigated factors through questionnaire with cases of microorganisms.

People with negative culture	People suffering from bacteria	People suffering from fungi	Investigated factors	row
0/020	0/037	-0/049	age	**1**
-0/001	-0/024	0/008	address (city village)	**2**
0/057	0/037	-0/096	education	**3**
0/021	0/063	-0/08	job	**4**
0/009	0/055	-0/02	Prevention method	**5**
-0/04	0/126*	-0/074	infection record	**6**
-0/047	0/126*	-0/068	Treatment record	**7**
-0/056	-0/162**	0/17**	existence of secretion	**8**
-0/21* **	0/007	0/206***	signs of itching	**9**
0/08	-0/04	-0/059	Edema sympthom	**10**
-0/019	-0/04	0/045	signs of arrhythmia	**11**
-0/03	-0/21***	0/182**	signs of irritation	**12**
-0/04	-0/012	0/032	signs of Dyspareunia	**13**
0/13*	-0/102	-0/18**	Without any specific sign	**14**

Results of non-parametric mean comparison of suffered people and suffered people in terms of coefficients, are investigated and given in table 3.

Results given in this table somehow confirm results of correlation coefficient and k2 compares amount of observed results with expected results and criterion Assum. Sig shows significant difference among observed values and expected values. It is shown in this table that there is a meaningful difference between patients suffering from fungi compared with other studied people in terms of clinical symptoms, including itching, irritation and secretions, it's shown that these three factors can help us to identify people suffering from fungal vaginitis. Other studied coefficients in present study don't have any relation on affected or non-affected by micro – organism (p > 0/05).

Table 3: Results of non-parametric mean comparison of people suffering from micro organism and non-affected people in terms of studied coefficients.

Suffering from bacteria		Negative culture		Suffering from fungi			row
Assum.sig	K2	Assum.sig	K2	Assum.sig	K2	Studied factors	
0/61	0/27	0/76	0/094	0/49	0/48	age	**1**
0/73	0/12	0/99	0/00	0/91	0/013	address (city village)	**2**
0/6	0/28	0/42	0/65	0/18	1/83	education	**3**
0/37	0/79	0/77	0/08	0/26	1/28	job	**4**
0/44	0/59	0/89	0/018	0/78	0/08	Prevention method	**5**
0/076	3/14	0/57	0/32	0/3	1/08	infection record	**6**
0/075	3/18	0/51	0/44	0/34	0/93	Treatment record	**7**
0/02	5/23	0/43	0/63	0/016	5/75	existence of secretion	**8**
0/92	0/009	0/003	8/86	0/004	8/47	signs of itching	**9**
0/58	0/31	0/27	1/23	0/41	0/69	Edema symptom	**10**
0/59	0/29	0/79	0/07	0/52	0/41	signs of arrhythmia	**11**
0/003	8/91	0/69	0/16	0/01	6/58	signs of irritation	**12**
0/87	0/03	0/6	0/27	0/65	0/21	signs of Dyspareunia	**13**
0/15	2/09	0/08	3/15	0/012	6/3	Without any specific sign	**14**

studied separated candida, it's indicated that candida albicans is the most prevalent type with frequency of 62% following by C. glabrata (18%) – C.dubliniensis (frequency of 12%) – C. krusei (4%) and C.tropicalis and C. parapsilosis (2%).

In a group of 50 isolated patients, 82 percent of cases produced chlamydospore in corn meal agar medium in which 62% of them were related to C.ablicans and 20% were related to non-albicans candida and Regarding growth in 45° C environment, all isolated of C.albicans had grown but none of isolated of non – ablicans candida grown.

It was indicated in comparative study of germ tube test that 74% of candida had grown in which 62% was related to C.ablicans and 12% to C.dubliniensis from non – albicans candida group.

DISCUSSION

Considering that vaginitis is one of the most prevalent problems in clinical medicine affecting millions of people's lives (16), among various kinds of vaginite, it's candida type with 30% prevalens is one of the most common reasons of vaginal infections (17).

While it is not life threatening , this illness causes physical and mental disorders, it also disturbs marital relations (18-19). Candida vaginitis is a fungal infection and in 80-98% of cases, albicans is responsible for it (20).

Aali and Tohidi (1376) showed in their study that among 500 studied patients 99 patients had positive culture and identified prevalence of candida vaginitis was 19/8% .(21)

Zeng and his team in china studied genotype of candida albicans and other candida types from patients suffering from vaginitis. In this experiment, 198 samples were separated from patients vagina in which 70/7% was related to candida albicans and 29/3% to non – albicans types. non-albicans candida types included C.Glabrata (26/2%) C.Parapsilosis (1%),C.Trupykalyys (0/5%) and other yeasts (1/6%). (22)

Mrs.Dehghan and her team(1391) studied types of candida in people suffering from candida vaginitis and healthy people according to clinical and Para clinical symptoms. 35% of studied people in this research had positive fungal culture and The most prevalent types separated from patients were: C.alnbicans (57/1%), C.parapsilosis (14/3%), C.glabrata (11/9%) and C.krusei (9/5%) which verified our results.

Mrs. Felahati et al (1387) conducted a research and found that C.albicans has highest frequency (69%) followed by C.glabrata with 18% (23).

In this study, from 200 studied samples,50 people (25%) had positive candida culture and the most prevalent identified type is C.albicans (62%) followed by C,glabrata (18%) which agrees with Zeng , Felahatis and Dehghan's researches.

Also In this research highest ratio of vaginal candidiasis observed in age group of 20-29 years old which confirms to Omran's et al study (24). According to Asadi's et al study, it's possible that women of this age – range are more active in terms of sexual relationships and physiological hormone changes and pregnancy prevention method (25).

In Jamilian's study it was noted that 90% of patients suffering from candida vaginitis, had no record of using antibiotic and contraceptives there was also no meaningful relationship between candida vaginitis and contraceptives and antibiotic usage (26). While in Portugal this statistics 40/6% (27).

In Aali's et al study, no meaningful relationship between pregnancy prevention methods and antibiotic usage and candida vaginitis was obtained (28).

Dehghan et al (1391) conducted a research and found that there was no meaningful relationship between demographic information including age , job , education and habitants and also possible reasons of illness such as pregnancy prevention and infection during last year and vaginitis (15).

Although, according to some articles and references, using anti-contraceptives are considered as preparing facilitating factors of candida vaginitis (29). In this study also no meaningful relationship was found between mentioned cases as Jamilian's Aali's and Dehghan's studies.

Oriel and his team have reported that vaginal itching with or without secretion, had been seen in 50% 0f cases(30).

From the other side, in Akbari's et al study, relationship of severity of contamination and severity of itching shows that the more severe itching comes with more severe is contamination (31).

In Omaran's et al study, there was a meaningful relationship between secretion, irritation and itching complaints with vaginitis, it was indicated that most of patients complain about itching (24). This result confirms Aali's, Eril's, Akbari's and Omran's studies.

While Jalilian et al in Arak, evaluated vaginal secretions as the most prevalent symptom and stated that the reason is the difference in sexual behaviors and biological factors such as various species (26).

In this study, growth ,which was studied in corn meal agar medium, as Dehghan's et al study, 82% of cases grew in corn meal agar medium in which 62% is related to C.albicans and 20% is related to non-albicans species (15).

Furthermore, in this research as Akbarzad's research based on germ tube test, 62% is related to C.albicans and 12% is related to non-albicans species (C.dubliniensis) (31).

Conclusion:

Considering the fact that major percentage of clinical diagnosis suspected to vaginitis, had negative culture, and also in majority of alternatives in this study, there was no meaningful relation with vaginitis, and considering that clinical symptoms are not enough to diagnosis it is suggested to employ the valid par clinical methods culturing the samples to reach an accurate results and also suggested to study separated bacteria from samples, which are not reviewed in this case, it's recommended to conduct a study to investigate it.

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