

EVALUATION SHLESHMALA AND PITTALA YONIVYAPADA ON THE PARAMETERS OF BACTERIAL VULVOVAGINITIS

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ABSTRACT

According to Acharya *Susruta*, due to *kapha* and *pitta dosha dushti* *Yonivyapada* includes 5-5 disorders, i.e. *sleshmala*, *atyananda*, *acarna*, *aticarna* and *karnini* while *Charaka* and *Vagbhata* have mentioned only one i.e., *sleshmiki yonivyapada*. In case of *pitta dosha dushti* Acharya *Susruta* has mentioned *pittala*, *rudhirakshara*, *vamini*, *sranshini putraghni*, Acharya *Charaka* mentioned *paittiki*, *raktayoni* and *arajska* and Acharya *vagbhata* has explained only *paittiki* and *rakta yoni*.(20) In this way if all disorders are considered separately then total 6 disorders are due to *kapha dosha* and total 10 disorders are mentioned by different Acharya. In this article we are going in detailed description of *pittala* or *paittiki* and *shleshmala* or *shlaishmiki yonivyapada*.

Traditionally bacterial *vaginosis* has been diagnosed using (Amsel's criteria) with three or four findings required to establish the diagnosis. Based on these criteria, 90% of women with bacterial vaginosis can be diagnosed correctly. Total 51 cases were selected on the basis of chief complaints and after detailed history, complete examinations they were taken up for investigations. Nugents Diagnostic criteria (scoring system) for bacterial vaginosis were considered for the study. *Shleshmala* and *pittala yonivyapada* both are found infectious conditions of bacteria.

Keywords: *Atyananda, Acarna, Aticarna, Dosha Dushti, Sleshmiki, Vamini, Sranshini, Putraghni*

INTRODUCTION

Among 20 *yonivyapada shleshmala* (*Susruta*) or *shleshmiki* (*Charaka* and *vagbhata*) is explained by five criteria i.e., cause of *kapha dosha dushti* in *yonis* (कफोभिष्यन्दिभिर्वृद्धो), discoloration of skin or mucosa (पाण्डुवर्णा) condition of *yonis* (पिच्छिला शीतां कण्डुग्रस्ताल्पवेदानाम्), features of *yonisrava* and condition of *rituchakra* (पिच्छिलार्तववाहिनीम्). Acharya

Chakrapani added intermenstrual period and called it *kaphaja asrigdara*. In the same way *pittala* or *paittiki* is characterized by दाह, पाक, ज्वर, उष्णार्ता, नीलपीतसितार्तवा, भृशोष्णकुणपस्रावा (*Charaka*); योनिदाहपाकज्वरान्विता (*Susruta*), दाहपाकोशा पूतिगन्धज्वरान्विता भृशोष्णभूरिकुणपनीलपीतसितार्तवा (*vagbhata*), Acharya *Chakrapani* added intermenstru-

al period and called it *pittaja asrigdara*. (21) Vulvovaginitis is most frequent Gynaecological diagnosis encountered by physicians who provide primary care to women. It is an inflammatory condition of vagina and obviously with vulva (the external genital organ of a woman). It is one of the most vexing problem for gynecologist. Because, results of management are unsatisfactory due to lack of practice to evaluate their clinical findings. (24,25) Main aetiological agents for it, are - Bacteria, parasite, fungus vulvovaginitis can also occurred due to low oestrogen level or any type of allergic, irritating response such as with spermicidal products, condoms, soap & bubble bath. Most experts believe that upto 90% of vaginitis cases are secondary to bacterial vaginosis, vulvovaginal candidiasis and trichomoniasis. (22,23)

Aim And Objectives: -

- To assess both *yonivyapada* clinically on the basis of sign and symptoms given in Ayurveda.
- To evaluate both *yonivyapada* on the parameters of bacterial vulvovaginitis.

Material Methods

Selection of cases: The patients of different age groups were attending the OPD of Dept. of Prasuti Tantra, Rishikul Campus, Haridwar with the complaints of: Vaginal discharge, itching in external genitalia, Pain in vulva and vagina, etc, and on local examination, were selected randomly as a subject for present study.

Criteria for exclusion of cases: The cases suffering from any systemic disease, likely to influence the course of disease or its follow up like gross anaemia, tuberculosis, hypertension, hyperthyroidism, renal or cardiovascular disorder, gross psychological abnormalities or any other disease likely to influence the general health of women, were excluded from the study.

Women with uterovaginal prolapse, any acute infection of any system, S.T.D., viral, fungal infections of genital organs, taking oral contraceptive pills, pregnant women and history of recent delivery or abortions of three month ago, history of allergy to common drugs were also excluded. If local per vaginal, per speculum examination and laboratory investiga-

tions suggesting any organic pathology of uterus or adnexal structure i.e. benign or malignant growth, vulvovaginitis other than bacterial were not registered in the present study.

Demographic profile: It is studied by interviewing every woman about her age, education occupation, socioeconomic status, dietary habits, bowel habits and any addiction etc.

Clinical profile: Women were enquired about their chief complaints and detailed interrogation were taken about each complaint such as:- Amount and Duration, Colour and Odour of vaginal discharge, Itching in external genitalia, Pain in vulva and vagina and associated symptoms were also enquired like pain during intercourse, backache, burning micturation, pain in abdomen etc. findings were observed and recorded.

Participants Total 83 cases were registered on the basis of chief complaints for the research protocol and out of 83, 3 cases were excluded due to history of treatment taken for tuberculosis, diabetes mellitus and skin allergy.

Examinations:- After history, in remaining 80 cases general systemic and local examinations were done.

General examination:- Complete general examination like general condition of patient, pulse rate, blood pressure, temperature, weight, oedema, lymphnodes were examined and findings were noted. Condition of skin and mucous membranes were also examined and noted. Out of 80, 1 case was excluded from the study due to high fever.

Remaining 79 cases were subjected to systemic examination.

Systemic examination:- Careful systemic examinations were done. All systems were examined like respiratory system, cardiovascular system, gastrointestinal tract, uro-genital system, central nervous system, skin and all observed findings in any system were noted. Out of 79, 2 cases were excluded due to clinical findings were abnormal in respiratory system.

Local examination: Per-abdominal, per-speculum, and per-vaginum examinations were done in remaining 77 cases and findings were noted. Per-abdominal examination was done for liver, spleen, any other organomegaly and for any scar of previous operation,

for herniation etc. No abnormal finding was observed in any case.

On local examination condition of vulva and vagina were seen for congestion, rashes, ulceration or any other abnormality. In per-speculum examination condition of cervix, amount and characteristics features of vaginal discharge were observed and findings were recorded. Per vaginum examination was not done as it can lead further infection. Nothing abnormality was seen during local examination. In remaining 77 cases following investigations were done.

General Investigations:

1. Hematological Investigation: Hb%, TC, DC, ESR, FBS, VDRL, HIV.

2. Urine examination: Routine-microscopic and culture-sensitivity test were done by standard techniques.

3. Stool examination: Stool was examined for ova and cyst.

After general investigations, 4 patients were excluded due to severe anaemia, 2 cases due to high fasting blood sugar, 1 case due to positive VDRL test and due to positive urine culture. Remaining 63 cases were subjected for specific investigations.

SPECIFIC INVESTIGATIONS:

1. Vaginal pH:-pH of vaginal canal was examined with the help of pH paper (range from 2-8) before giving the treatment.

Method: -Taking all aseptic precaution patient was kept in lithotomic position and cervix was exposed with Cusco's bivalve speculum was applied and vagi-

nal discharge was taken and put on pH paper strip. The colour change was matched with the range given for that colour and reading was noted.

2. Wet slide study of vaginal smear: It was studied by taking a direct drop of vaginal discharge on slide from the vaginal canal and slide was studied further under microscope.

Method:- Up to exposing of cervix, the above method was applied and vaginal discharge was taken from vaginal pool with the help of sterile swab stick. After this it was smeared on clean glass slide and a drop of saline was dropped over the slide. Now slide was examined directly in the microscope under low power magnification. Then a cover slip was placed over the drop and it was further examined under high power magnification of microscope.

1. Vaginal Swab Culture:

2. Method:-Up to exposing of cervix, the above method was applied. Vaginal discharge was taken from the vaginal pool with the help of sterile swab stick, kept into sterilized bottle and was sent for microbiological examination.

Out of remaining 63, 3 patients were excluded from the study due to sterile vaginal swab culture.

Observations: For the scoring of Amount of vaginal discharge, itching in external genitalia, *yoni vedana* (pain invulva vagina or lower abdomen), *yoni* (vulva and vagina) *daha, paka* (any rashes or pustules), *jwara* (fever) following criteria were adopted.

Table 1: Showing scoring of Amount of vaginal discharge, Itching in external genitalia, Pain in abdomen.

| Variable | Amount of vaginal discharge | Itching (in ext. genitalia) | Pain (in vulva and vagina) | Score |
|---------------|--|--|---|-------|
| Mild (+) | Moisturizing of vagina but no spotting on under garments | Feeling of itching only when attention towards itching | This type of pain did not interfere in physical activity of individual | 1 |
| Moderate (++) | More discharge causing spotting of 1-2 inches in diameter on under garments, once or twice in a day | Feeling itching even while busy in some work. | When pain interfere in the physical activity and patient had need for analgesic for sometimes | 2 |
| Severe (+++) | Undergarments are invariably soiled and require changing and washing daily. Excessive discharge P/V causing soakage of under garments may require wearing extra absorbent pad. | Constant feeling of itching | When patient had always need of rest and analgesic. | 3 |

Table 2: Incidence of Age, Gravidity, Parity and Marital Status in total cases.

| Variables N=51 | Age (yr) | Married life (In years) | Gravidity (In no.) | Parity (In no.) |
|----------------|----------|-------------------------|--------------------|-----------------|
| Mean | 29.37 | 10.14 | 3.22 | 2.45 ±1.36 |
| ±SD | ±3.94 | ±3.79 | ±1.70 | |

Youngest patient in the study was of 22 years, while oldest patient was of 35 years. However, majority of cases were in between 25-35years age group. About 50% women were having their married life more than

10 years. Most of the women were multigravida and multipara, mean age in total cases was 29.37yrs. Mean married life was seen 10.14yrs in total cases.

Table 3: Incidence of Frequency of Sexual Intercourse in total cases.

| Frequency of sexual intercourse | Total cases(n=51) | |
|---------------------------------|-------------------|------|
| | No. | % |
| Monthly | 5 | 9.8 |
| Bimonthly | 5 | 9.8 |
| Weekly | 7 | 13.7 |
| Biweekly | 14 | 27.4 |
| > Biweekly | 20 | 39.2 |

Table 4: Incidence of Hygienic Conditions in total cases

| Hygienic Conditions Total cases (n=51) | Unhygienic | Hygienic |
|--|------------|----------|
| No. | 36 | 15 |
| % | 70.5 | 29.4 |

Chief complaints: All the symptoms narrated by the patients can be divided into two subheadings that is symptoms related to the external genitalia and other associated symptoms.

Table 5: Incidence of chief complaints and associated symptoms in total cases.

| Variables | Total Cases (N=51) | |
|-------------------------------|--------------------|------|
| | No. | % |
| Chief Complaints | | |
| (1) Vaginal Discharge | 51 | 100 |
| (2) Itching In Ext. Genitalia | 38 | 74.5 |
| (3) Pain In Vulva And Vagina | 36 | 70.5 |
| Associated Symptoms | | |
| Pain During Coitus | 51 | 100 |
| Burning Micturition | 51 | 100 |
| Backache | 45 | 83.3 |
| Pain In Lower Abdomen | 25 | 49.0 |

Vaginal pH:

Table 6: Status of Vaginal pH in total cases.

| Vaginal pH | Total cases (n=51) | |
|------------|--------------------|-------|
| | No. | % |
| 5 - 5.5 | 7 | 13.7 |
| 6 - 6.5 | 34 | 66.66 |
| 7 - 7.5 | 10 | 19.1 |

Vaginal swab culture:

Table 7: Status of Vaginal Swab Culture in total cases.

| Pathogens in Vaginal Swab culture | Total cases(n=51) | |
|-----------------------------------|-------------------|-------|
| | No. | % |
| <i>Micrococci</i> | 18 | 35.3 |
| <i>Staph. aureus</i> | 17 | 33.33 |
| <i>Streptococci</i> | 6 | 11.76 |
| <i>E. coli</i> | 4 | 7.84 |
| <i>Klebsiella pneum</i> | 3 | 5.88 |
| <i>Pseudomonas</i> | 2 | 3.92 |
| <i>Enterococci fecal.</i> | 1 | 1.96 |

Result: Disease caused by both exogenous and endogenous bacteria correlates positively with a markedly increased level of bacterial replication. For disease to occur, exogenous or endogenous bacteria that possess pathogenic prerequisites must attain replicative dominance. Their ability to do so is potentially governed by inhibitory or synergistic interrelationships with other microbes. However, the mere presence of an unknown, exogenous, potentially pathogenic species does not necessarily constitute disease when disease is defined in terms of symptoms.(19) So the *shleshmala yonivyapada* can be called a transition form from healthy vaginal microflora towards bacterial vulvovaginitis and *pittala* is advanced infectious condition of vulvovaginitis with all inflammatory sign and symptoms.

DISCUSSION

All the symptoms narrated by the patients can be discussed according to common complaints that is symptoms related to commonest complaint was vaginal discharge which was in 100% cases. Next common complaint was itching in external genitalia as it was present in 74.5% cases. Pain in vulva and vagina were found in 70.5% cases. Amongst associated symptoms pain during coitus and burning micturition were the most common symptoms were seen in 100% women followed by backache in 83% and pain in lower abdomen in 49% cases. 84.3% of cases were literate and only 15.7% cases were illiterate. Most of women (86.3%) were housewives, while only 13.7% cases were working women. Maximum (70.5%) women were not maintaining their hygienic status. Only

29.4% women were living with proper hygiene. Statistical comparison between all the groups was insignificant. Majority 52.9% of women hailed from middle class families while rest were from low socio-economic status. most of women (68.6%) were having normal appetite. Only 33.3% women were having decreased appetite.

The incidence was a little higher in non-vegetarian group that is 52.9% in total cases. Non spicy food was consumed by the 54.9% women. Regular bowel habits were seen in maximum cases i.e. 72.5%. Only 27.5% women were having irregular bowel habits. Addiction of bidi and tobacco were found in few cases while rest of the cases having no addiction. about 39% cases were involved in sexual intercourse >biweekly while 27.4% and 13.7% were indulge in sexual intercourse biweekly and weekly respectively. Monthly and bi-monthly frequencies of intercourse were seen only in 9.8% women. Gorbach et al. [4] demonstrated that, in women of reproductive age, anaerobic bacteria outnumbered aerobic bacteria in a ratio of approximately 10:1. This ratio clearly reflects a dynamic colonization process. For example, although adolescent subjects appeared to have a greater prevalence of anaerobic bacteria, aerobic bacteria appeared to become more abundant with advancing age, onset of sexual activity, and parity. Majority of women (68.6%) were not using any type of contraceptive method while 19.6% cases were using IUCD and 11.26% barrier methods. All the cases had achieved their age of menarche in between 12-14 yrs. of age.

Normal inter-menstrual period with normal duration and amount of blood loss during menstrual period

were seen in about all the cases. Only some patients were suffering from mild irregularity in menstrual cycle. Past history was found insignificant in all the cases, General condition of all the women were seen good and Blood pressure, pulse rate, temperature, Respiratory rate were also found within normal range in all the cases. Body weight was seen in between 47-52Kg in all the cases.

Nothing abnormal was detected during systemic examinations in all the women. On palpation Liver and spleen were found within normal limit in all the cases. Per abdominal and per speculum were done. Per vaginum examination was not done. On examination vulva and vagina were congested in all the cases. rashes and abrasions on external genitalia were present in 21.56% and 9.8% cases respectively. Cervix was healthy and os was patulous in all the cases. Severe (+++) amount of vaginal discharge was seen in 56.86% patients. Moderate amount (++) of vaginal discharge was seen in 39.2% women. Thin consistency of vaginal discharge was found in 90.1% cases. In majority of cases the colour of vaginal discharge was noted whitish or grayish while only in 5.88% cases, colour was milky white. Foul odour in vaginal discharge was observed in 66.66% cases. Moderate (++) and Severe grade (+++) of itching in external genitalia were found in 7.89% and 5.26% cases respectively. Most of the women (86.8%) were having mild grade (+) of itching. Mild (+) and moderate (++) pain in vulva and vagina were seen in 94.4% and 5.55% cases respectively. Hb%, TC, DC, ESR, FBS were found within normal range and HIV, VDRL were non-reactive in all the cases. In urine (routine and microscopic, culture) and stool (for ova and cyst). No abnormalities were found. Vaginal pH, wet slide study and vaginal swab culture were done. 6 to 6.5 pH was found in 66.66% cases while 5 to 5.5 pH was seen in 13.4% cases. Higher range of pH that is 7-7.5 was also seen in 19.1% cases. All the patients were having clue cells in their wet mount preparation of vaginal smear. In vaginal swab culture *Micrococci* and *Staphylococci* were present in maximum numbers of cases i.e. *Micrococci* in 35.33% cases and *Staphylococci* in 33.33% cases. *Streptococci*, *Klebsiella pneumonia*,

E.coli, *Pseudomonas* and *Enterococci fecalis* were present in 11.76%, 7.84%, 5.88%, 3.92% and 1.96% of cases respectively. The microbiological flora of the lower female genital tract is a dynamic, complex example of microbial colonization, the regulation of which is not fully understood. Much of what we know about the bacterial composition of the female genital tract is derived from qualitative, descriptive studies. (1-3) Inhibitory proteins have been isolated from strains of *Lactobacillus acidophilus* (7). Holmberg and Hallander (9) documented the ability of *Streptococcus sanguinus* to inhibit the growth of *L. acidophilus*, *Lactobacillus fermentum*, and *Lactobacillus casei*. Phonck (8) and Hillier et al. (6) reported that streptococci may inhibit vaginal lactobacilli.

CONCLUSION

As per the selection of patients if they are categorized according to the classical characteristic features, the patients of *shleshmala yonivyapada* were having watery or thin mucoid vaginal discharges, without burning sensation in yoni (vulva and vagina), *paka* (inflammatory rashes in skin and mucosa of vulva and vagina) and *jwara* etc., and vaginal discharges with the rest of symptoms might be the cases of *pittala yonivyapada*. Thus both are infectious conditions of vulva and vagina and due to limitations of lab test sensitivity it is difficult to say that if there is mixed infection (fungal and trichomonal) is present or not, but according to above discussion both *yonivyapada* comes under bacterial vulvo-vaginitis. Other infections may also be present along with bacterial colonies. The severity of sign and symptoms will depend on immune system of patient, lifestyle and type of food ingested by patient. As per the description of *nidana* of *pittala katu*, *amla*, *lavana* and *kshara* etc., *rasa* dominating food article may be responsible for changes of medium of body fluid which further may be harmful for mucosal tissue and residential bacteria i.e., *doderlien bacilli* (different species of lactobacilli). The ability of *Lactobacillus* species to inhibit the growth of several bacterial species, including *G.vaginalis*, *Mobiluncus* species, *Peptostreptococcus* species, and *Bacteroides* species. They attributed this

inhibition primarily to production of a low pH. (5) Shifts in bacterial flora have long been associated with shifts in vaginal pH (10-12). During BV, for example, the vaginal pH rises and the vaginal flora shifts from being Lactobacillus dominated (13) to a flora in which Gardnerella vaginalis, Mycoplasma hominis, and anaerobic bacteria (14, 15) predominate. Although this correlation suggests that vaginal acidity is produced by vaginal flora, it is also possible that the shift in flora may alter acid production by the vaginal epithelium. Deficiencies in local immunity may predispose women to BV. Women who are chronically stressed have a higher prevalence of BV (16). BV was found to be more common among women with inflammatory response gene polymorphisms that cause reduced immune function (17). Protein-energy malnutrition and intake of several nutrients such as vitamins A and C, iron, and zinc have been reported to affect the immune system, particularly local immunity (18).

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