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Clinical Study To Evaluate The Efficacy of *Brhati Phala- Dwiharidra Kalka Yonipuran* In The Management of *Kaphaja Yoni Vyapat* W.S.R To Candidiasis

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ABSTRACT: -

Kaphaja yoni vyapat is a common condition which manifest with *lakshanas* like *Picchila* and *Sheetala srava*, *Kandu*, *Mandaruja* in *yonipradesha*. These can be correlated to Candidiasis caused by *Candida Albicans*. A microscopic wet smear confirms the diagnosis. *Yoni Puran* is advised as the treatment modality. Thus, vaginal route of drug intervention can be used for a better therapeutic efficacy than the conventional oral route of drug administration alone. The current study is an open labeled single arm clinical trial at the Out-patient department level of *Prasuti Tantra Evam Stree Roga* Department, on *Kaphaja Yoni Vyapat*, conducted at the Padma Ayurvedic Hospital and Research Centre, Terdal. Patients were selected from O.P.D. of the Department of *Prasuti Tantra evam Stree Roga*, Padma Ayurvedic Hospital and Research Center, Terdal. 1 *Karsha* of *Kalka* was rolled in sterile bandage and inserted in *yonipradesha* till *Amutra kaala* or 3-4 hours once daily for 7 days. *Yonipradesha* was cleaned with sterile gauge piece before procedure and *yoniprakshalana* with *sukhoshna jala* was done after procedure. Improvement was assessed by special scoring method.

Key Words: *Kaphaja Yoni Vyapat*, *Candida Albicans*, *Yoni puran*, Candidiasis



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INTRODUCTION

WHO defines health as a state of complete physical, mental and social well being, and not just the absence of disease.^[1] The Life style, food habit and unhygienic practice have increased tensions and restlessness which have expanded the spread of gynecological disorders. The concept of healthy yoni has been contended in different phases of female's life from puberty to marriage to child birth and thereafter.

Stree is prime source of genesis of mankind.^[2] when women indulge in *mithya aahara- vihara* leads to *dushti* in *Yoni Pradesha* resulting in *Yoni Rogas*. Most of the gynaecological disorders like differing kinds of vaginal discharges, infections, congenital anomalies and displacements^[3] form are been explained under 20 *Yoni Vyapats*. *Kaphaja Yoni Vyapat* is a *Yoni roga* which consists of *lakshanas* like *Picchila* and *Sheetala srava* from yoni associated with *Kandu* and *Mandaruja* is been explained.^[4,5,6]

Normally vulval and perineal skin is resistant to common infection.^[7] But if the defense is lost there'll be constant irritation resulting in Vaginal discharge, Itching which are commonest complaints by women.^[8] A study research in India has shown that the prevalence of genital tract infections was 37.0% based on symptom and 36.7% by laboratory investigations, including 31% Candidiasis, 3% Gonorrhoea, 2% Trichomoniasis and 45% Bacterial Vaginosis.^[9] The pathogen is differentiated by certain clinical

criteria as well as microscopically.^[10] Nature and Quantity of discharge varies from mild to severe which can hamper even daily routine activities as well as symptoms are most frequently stubborn which require effective treatment.

Yoni rogas are often better managed with usage of medicines locally instead of oral route to give optimum relief to suffering woman. A number of treatment modalities explained in the classics in the management of *Kaphaja Yoni Vyapat* are *Yoni Prakshalana*, *Kalka-Pichu Dharana*, *Yoni Dhupan*, *Varti Prayoga* etc.^[11] As mode of administration are going to be more easier and effective in *Kalka* form- *Kalka* was prepared with the drugs *Brhati phala*, *Haridra* and *Daru haridra* described in *Chikitsa of Kaphaja Yoni Vyapat* by *Acharya Sushruta* with properties- *Laghu*, *ruksha*, *Ushna* which are *Kaphahara* in nature and are known to possess potent Antimicrobial, Anti fungal, anti bacterial activity utilized in the treatment of *tvak* and *kushtha roga* were selected.

Kalka prepared with above drugs which has been explained specifically within the context of *Kaphaja Yoni vyapat* in the form of *poorana* and *dhoopana* was modified and taken in the form of *Churna* to prepare *kalka* with *sukhoshna jala* and rolled in a sterile bandage as base can act effectively could be a safe and convenient option using easily available drugs. *Yoni Puran* of *Brhati phala- Dwiharidra kalka* in *yonipradesha* helps to combat from symptoms and keep vaginal flora healthy.

AIMS & OBJECTIVES

1. To evaluate the efficacy of *Brhati Phala-dwiharidra Kalka Yoni Puran* in the management of *Kaphaja Yoni Vyapat*.
2. To study the in detail concept of *Kaphaja Yoni Vyapat*.

MATERIALS AND METHODS:

Source of data:

1. **Literary Data** – Literary sources were collected from authentic texts and relevant research articles.
2. **Drug Source** – *Brhati Phala*, *Haridra* and *Daruharidra* procured from GMP certified pharmacy. The raw drugs were authenticated from Department of *Dravya guna* and the *Churna* was authenticated from Department of *Ras Shastra evam Bhaishajya Kalpana* in SDM Trust's Ayurvedic Medical college, Terdal and Macroscopic, Physio chemical standards of *Churna* was tested by Central Research facility in Shri B M Kankanwadi Ayurved Mahavidyalaya, Belgaum.
3. **Subject Source** - Patients were selected from the O.P.D. of the *Stree Roga & Prasooti Tantra* Department, Padma Ayurvedic Hospital and Research Center, Terdal. Patients fulfilling the criteria for selection were integrated into the study irrespective of religion, caste and demographic criteria.

Method of collection of data:

A minimum of 30 patients who are fulfilling diagnostic and inclusion criteria will be selected for study.

Sampling method – Purposive sampling

Sample size – 30

Patients will be screened for diagnostic, inclusion and exclusion criteria.

Plan of study:

Selection of Drugs:

Ingredients used in *Kalka* are been quoted by *Acharya Sushruta* in the context of *Yoni Kandu*.

Collection of drugs:

Brhati Phala, *haridra* and *Daruharidra* procured from GMP certified pharmacy. The raw drugs were authenticated from Department of *Dravya guna* in SDM Trust's AMC, Terdal

For *Kalka*, *Churna* of ingredients was prepared at the Department of *Rasa Shastra evam Bhaishajya Kalpana*, SDM Trust's AMC, Terdal. *Mardana* done and fine powder obtained by *Vastra Galana*.

The photochemical analysis of fine *churna* was done in Shri BMK Ayurvedic Medical College, Belgaum.

Method of Drug Preparation:

Equal Parts of *Sukshma Choorna* of the drugs *Brihati Phala*, *Haridra* & *Daru Haridra* i.e. 4grams each, 12 grams of *Sukshma churna* and 48ml of *Sukhoshna Jala* were taken to prepare *kalka*. All the ingredients were pounded over *Shilapishta* until homogenous mixture obtained. *Kalka* prepared is rolled sterile bandage

Criteria for selection of patient:

Criteria for diagnosis:

Diagnosis will be done on the basis of the classical signs and symptoms of *Kaphaja Yoni Vyapat* described by *Sushruta* supplemented with signs and symptoms of Candidiasis.

1. *Yoni Srava (Picchila-Sheeta)*
2. *Yoni Kandu*
3. *Yoni vedana*

And on per speculum vaginal examination –

1. Vaginal examination may be tender.
2. Vulva may be red and swollen with evidences of pruritus.
3. Removal of the white flakes reveals multiple oozing spots.

For final diagnosis Wet Smear of vaginal discharge preparation of Candidiasis should be positive.

Inclusion criteria of patient:

1. Married women, aged between 18-50years
2. Diagnosed subjects with Candidiasis with abnormal vaginal discharge and pruritus.
3. Clinical sign and symptoms of Kaphaja Yoni Vyapat.
4. Willing to cooperate with the study and sign the informed written bilingual consent form.

Exclusion criteria of patient:

1. Pregnant and lactating women.
2. Women with pelvic inflammatory disease.
3. Women with cervical intraepithelial neoplastic lesions.
4. Patients diagnosed for HIV, VDRL, HBsAg.
5. Systemic disease like Diabetes mellitus, Hypertension, Bronchial asthma, Allergic bronchitis, Pulmonary Koch's.
6. Severe psychiatric ailments.
7. Patients on hormonal medications for contraception or regulation of menstruation.
8. Patients who have antibiotic coverage within 1 month, corticosteroids for less than past 6 months.

General investigations:

1. Complete blood count
2. R.B.S.
3. HIV
4. VDRL
5. HBsAg
6. Wet smear of vaginal discharge done in all patients before and after treatment.

Method of Research:

The method adopted in present study is purposive sampling. Interventional study was carried out. Total 30 patients were registered.

Informed Consent:

The purpose of the study, nature of the study drugs, the procedures to be carried out and the potential benefits and risks were explained to the patients in detail in bilingual. Thereafter their written consent was taken before starting the procedure.

Treatment protocol:

Brhati Phala- Dwiharidra kalka 1karsha rolled in sterile bandage inserted in *Yoni Pradesha* once daily for a period of 7days.

Method of administration of Kalka:

POORVAKARMA:

1. Informed and written consent is taken.
2. The subject is advised to empty the bladder and made to lie in dorsal position with knees flexed or in the lithotomic position.
3. The vaginal area is cleaned with sterile gauze piece.

Pradhana Karma:

Brhati Phala- Dwiharidra Kalka rolled in sterilized bandage is administered per vaginally – 1karsha^[12] till 3-4hours or *Amutrata kala*.

Paschat Karma:

1. *Kalka* rolled in bandage is removed properly after 3-4hours.
2. *Yoni Prakshalana* with *Sukhoshnajala* is done.

Advice:

1. To avoid intercourse during the course of treatment.
2. To maintain hygiene.
3. To wear clean sundried undergarments.
4. To wash the vaginal area with warm water after lepa every time.
5. To avoid spicy, fried, bakery items and fermented items and avoid over eating.
6. To avoid mental stress.

7. To take green leafy vegetables, simple food and milk.

Follow up:

After the treatment for 7 days, the patients were asked to review on 8th day and 15th day.

Criteria for assessment:

Subjective Criteria:

Table no.- 1 – Subjective Parameters

S.No	Parameters	Grade 0	Grade 1	Grade 2	Grade 3
1.	<i>Yoni Srava- (Picchila Sheeta Srava)</i>	Absent	Mild-Moistening present	Moderate- wets undergarments completely but don't require pad	Severe- requires pad
2.	<i>Yoni Kandu</i>	Absent	Mild-Present without scratch	Moderate- relief by scratch, without excoriation	Severe- unrelieved by scratching, restlessness, excoriations
3.	<i>Yoni Vedana</i>	Absent	Mild- localized feeling of pain during movement only but not felt during rest	Moderate- localized feeling of pain even during rest but not disturbing the sleep	Severe- localized continuous feeling of pain, radiating and disturbing during sleep

The improvement in the patient was assessed mainly on the basis of relief in the signs and symptoms of the disease. To assess the effect of therapy, all the signs and symptoms were given scoring depending upon their severity.

A special scoring pattern was adopted for the sign & symptoms as follows:

2. Wet smear of vaginal discharge before and after treatment.

Objective Criteria:

1. Per speculum examination done for the assessment of the therapy by comparing the BT and AT

Table No.- 2 – Objective Parameters

S.No.	Criteria	Grade 0	Grade 1	Grade 2	Grade 3
1.	External Genital appearance	Healthy	Reddish	Reddish, sore with scratch marks	Erythema, oedema, Reddish, sore with scratch marks
2.	Vagina	Normal	Reddened Vaginal wall	Erythematous, reddened vaginal wall	Erythematous, oedema, reddened vaginal wall
3.	Tenderness	Absent	Mild tenderness to palpation without grimace or flinch	Moderate tenderness with grimace &/or flinch to palpation	Severe tenderness with withdrawal (+Jump Sign)
4.	Nature of Discharge	Normal/Absent	Curdy white	Thin watery	Thick
5.	Quantity of Discharge	Covers 25% cervix-scattered presence	50% cervix-does not settle in speculum	75%- settles at posterior blade of speculum	100%- covers entire cervix
6.	Curdy White Flakes	Absent	Scattered present	Covers 50% of Cervix	Covers entire cervix
7.	Candida albicans (wet smear of vaginal discharge)	Negative	Light growth <10 conolies per plate	Moderate growth 10-99 colonies per plate	Heavy growth ≥ 100 colonies per plate

RESULTS

In this clinical study 30 subjects of *Kaphaja Yoni Vyapat* were registered, and Zero dropouts. This study was single group open clinical study. Here *Brhati phala- Dwiharidra Kalka* is administered to the subjects of *Kaphaja Yoni Vyapat*

(Candidiasis) at the dose of 1*Karsha* of *Brhati phala- Dwiharidra Kalka Yoni Purana* is done once daily for the period of 7days and here in this section obtained data pre and post study was analysed using Friedman's test and Wilcoxon Signed rank test. The results are presented below:-

Table No.- 3 – Showing results of Friedman’s test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on *Yoni Srava*

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.92	54.514	<0.001	S
AT (8 th Day)		1.98			
FU (15 th Day)		1.10			

Friedman’s test showed statistically significant difference in *Yoni Srava* with $\chi^2 = 54.514$, $p = <0.001$

Table No.-4 – Wilcoxon signed Rank Test with Bonferroni correction ($p=0.016$) on the Symptom *Yoni Srava*

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	25	13.00	325.00	0	0.00	0.00	5	30	-4.838	<0.001	S
AT-FU	24	12.50	300.00	0	0.00	0.00	6		-4.899	<0.001	S
BT-FU	0	0.00	0.00	30	15.50	465.00	0		-5.007	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was significant relief seen in *Yoni srava* after 7 days of treatment with $p = <0.001$. On 15th day

significant relief in *Yoni srava* with p value= <0.001 because there will be no much change in between 8th day and 15th day. Overall effect of treatment from day 0 to day 15; there was relief in *Yoni Srava* with p value= <0.001 which shows significant effect.

Table No.- 5 – Showing results of Friedman’s test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on *Yoni Kandu*

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.90	53.514	<0.001	S
AT (8 th Day)		1.98			
FU (15 th Day)		1.12			

Friedman’s test showed statistically significant difference in *Yoni Kandu* with $\chi^2 = 53.514$, $p = <0.001$

Table No.-6 – Wilcoxon signed Rank Test with Bonferroni correction (p=0.016) on the Symptom Yoni Kandu

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	25	13.00	325.00	0	0.00	0.00	5	30	-4.772	<0.001	S
AT-FU	24	12.50	300.00	0	0.00	0.00	6		-4.735	<0.001	S
BT-FU	0	0.00	0.00	29	15.00	435.00	1		-4.802	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was significant relief seen in *Yoni Kandu* after 7 days of treatment with $p < 0.001$. On 15th day significant relief in *Yoni Kandu* with p

value= <0.001 because there will be no much change in between 8th day and 15th day. Overall effect of treatment from day 0 to day 15; there was relief in *Yoni Kandu* with p value= <0.001 which shows significant effect.

Table No.- 7 – Showing results of Friedman's test for effects of Brhati phala- Dwiharidra Kalka Yoni Puran on Yoni Vedana

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.73	50.531	<0.001	S
AT (8 th Day)		2.17			
FU (15 th Day)		1.10			

Friedman's test showed statistically significant difference in *Yoni Vedana* with $\chi^2 = 50.531$, $p < 0.001$

Table No.-8 – Wilcoxon signed Rank Test with Bonferroni correction (p=0.016) on the Symptom Yoni Vedana

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	16	8.50	136.00	0	0.00	0.00	14	30	-3.900	<0.001	S
AT-FU	26	13.50	351.00	0	0.00	0.00	4		-4.939	<0.001	S
FU-BT	0	0.00	0.00	28	14.50	406.00	2		-4.736	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was significant relief seen in *Yoni vedana* after 7 days

of treatment with $p < 0.001$. On 15th day significant relief in *Yoni vedana* with p value= <0.001 because there will be no much change in between 8th day and 15th day. Overall

effect of treatment from day 0 to day 15; there was relief in *Yoni vedana* with p value= <0.001

which shows significant effect.

Table No.- 9 – Showing results of Friedman’s test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on External Genital Appearance

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.37	22.533	<0.001	S
AT (8 th Day)		2.02			
FU (15 th Day)		1.62			

Friedman’s test showed statistically significant difference in External genital appearance with $\chi^2 = 22.533$, $p = <0.001$

Table No.-10 – Wilcoxon signed Rank Test with Bonferroini correction ($p=0.016$) on the Symptom External Genital Appearance

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	8	4.50	36.00	0	0.00	0.00	22	30	-2.828	<0.005	NS
AT-FU	9	5.00	45.00	0	0.00	0.00	21		-3.000	<0.003	NS
FU-BT	0	0.00	0.00	14	7.50	105.00	16		-3.494	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was non-significant change seen in External Genital Appearance after 7 days of treatment with $p < 0.005$. On 15th day non significant change in

External Genital Appearance with p value= <0.003 because there will be no much change in between 8th day and 15th day. Overall effect of treatment from day 0 to day 15; there was relief in External genital appearance with p value= <0.001 which shows significant effect.

Table No.- 11 – Showing results of Friedman’s test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on Vagina

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.70	42.000	<0.001	S
AT (8 th Day)		2.00			
FU (15 th Day)		1.30			

Friedman’s test showed statistically significant difference on Vagina with $\chi^2 = 42.000$, $p = <0.001$

Table No.-12 – Wilcoxon signed Rank Test with Bonferroni correction (p=0.016) on the Examination of Vagina

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	17	9.00	153.00	0	0.00	0.00	13	30	-4.123	<0.001	S
AT-FU	17	9.00	153.00	0	0.00	0.00	13		-4.123	<0.001	S
FU-BT	0	0.00	0.00	25	13.00	325.00	5		-4.540	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was significant relief seen in vagina after 7 days of treatment with p=<0.001. On 15th day significant

relief in vagina with p value=<0.001 because there will be no much change in between 8th day and 15th day. Overall effect of treatment from day 0 to day 15; there was relief in vagina with p value=<0.001 which shows significant effect.

Table No.- 13 – Showing results of Friedman’s test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on Tenderness

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.73	50.531	<0.001	S
AT (8 th Day)		2.17			
FU (15 th Day)		1.10			

Friedman’s test showed statistically significant difference on Tenderness with $\chi^2 = 50.531$, p= <0.001

Table No.-14 – Wilcoxon signed Rank Test with Bonferroni correction (p=0.016) on the Examination of Tenderness

Parameter	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	16	8.50	136.00	0	0.00	0.00	14	30	-3.900	<0.001	S
AT-FU	26	13.50	351.00	0	0.00	0.00	4		-4.939	<0.001	S
FU-BT	0	0.00	0.00	28	14.50	406.00	2		-4.736	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed

significance of p value at 0.016. There was significant relief seen in tenderness after 7 days

of treatment with $p < 0.001$. On 15th day significant relief in tenderness with p value < 0.001 because there will be no much change in between 8th day and 15th day. Overall

effect of treatment from day 0 to day 15; there was relief in tenderness with p value < 0.001 which shows significant effect.

Table No.- 15 – Showing results of Friedman’s test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on Nature of Discharge

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.88	53.000	<0.001	S
AT (8 th Day)		2.00			
FU (15 th Day)		1.12			

Friedman’s test showed statistically significant difference on Nature of Discharge with $\chi^2 = 53.000$, $p < 0.001$

Table No.-16 – Wilcoxon signed Rank Test with Bonferroni correction ($p=0.016$) on the Examination of Nature of Discharge

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	24	12.50	300.00	0	0.00	0.00	6	30	-4.899	<0.001	S
AT-FU	24	12.50	300.00	0	0.00	0.00	6		-4.899	<0.001	S
FU-BT	0	0.00	0.00	29	15.00	435.00	1		-4.893	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was significant relief seen in Nature of Discharge after 7 days of treatment with $p < 0.001$. On 15th day significant relief in Nature of Discharge with

p value < 0.001 because there will be no much change in between 8th day and 15th day. Overall effect of treatment from day 0 to day 15; there was relief in Nature of Discharge with p value < 0.001 which shows significant effect.

Table No.- 17 – Showing results of Friedman’s test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on Quantity of Discharge

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.85	52.058	<0.001	S
AT (8 th Day)		2.03			
FU (15 th Day)		1.12			

Friedman’s test showed statistically significant difference on Quantity of Discharge with $\chi^2 = 52.058$, $p < 0.001$

Table No.-18 – Wilcoxon signed Rank Test with Bonferroni correction (p=0.016) on the Examination of Quantity of Discharge

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	23	12.00	276.00	0	0.00	0.00	7	30	-4.796	<0.001	S
AT-FU	25	13.00	325.00	0	0.00	0.00	5		-5.000	<0.001	S
FU-BT	0	0.00	0.00	28	14.50	406.00	2		-4.850	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was significant relief seen in Quantity of Discharge after 7 days of treatment with $p < 0.001$. On 15th day significant relief in Quantity of Discharge

with p value= <0.001 because there will be no much change in between 8th day and 15th day. Overall effect of treatment from day 0 to day 15; there was relief in Quantity of discharge with p value= <0.001 which shows significant effect.

Table No.- 19 – Showing results of Friedman's test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on Curdy White Flakes

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	2.92	53.626	<0.001	S
AT (8 th Day)		1.95			
FU (15 th Day)		1.13			

Friedman's test showed statistically significant difference on Curdy White Flakes with $\chi^2 = 53.626$, $p = < 0.001$

Table No.-20 – Wilcoxon signed Rank Test with Bonferroni correction (p=0.016) on the Examination of Curdy White Flakes

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	25	13.00	325.00	0	0.00	0.00	5	30	-5.000	<0.001	S
AT-FU	22	11.50	253.00	0	0.00	0.00	8		-4.690	<0.001	S
FU-BT	0	0.00	0.00	30	15.50	465.00	0		-4.939	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was significant relief seen in Curdy white flakes after

7 days of treatment with $p = < 0.001$. On 15th day significant relief in Curdy white flakes with p value= <0.001 because there will be no much change in between 8th day and 15th day. Overall

effect of treatment from day 0 to day 15; there was relief in Curdy white flakes with p value

=<0.001 which shows significant effect.

Table No.- 21 – Showing results of Friedman’s test for effects of *Brhati phala- Dwiharidra Kalka Yoni Puran* on *Candida Albicans* (Wet Smear of Vaginal Discharge)

Variable	N	Mean Rank	χ^2	P	Remarks
BT (0 th Day)	30	1.97	28.000	<0.001	S
AT (8 th Day)		1.03			

Friedman’s test showed statistically significant difference on *Candida Albicans* with $\chi^2 = 28.000$, $p = <0.001$

Table No.-22 – Wilcoxon signed Rank Test with Bonferroni correction (p=0.016) on *Candida Albicans* (Wet Smear of Vaginal Discharge)

Parameters	Negative Ranks			Positive Ranks			Ties	N	Z Value	P Value	Remarks
	N	MR	SR	N	MR	SR					
BT-AT	28	14.50	406.00	0	0.00	0.00	2	30	-4.768	<0.001	S

Post hoc analysis with Wilcoxon signed rank tests with Bonferroni correction revealed significance of p value at 0.016. There was significant relief seen in *Candida Albicans* after 7 days of treatment with $p < 0.001$.

DISCUSSION

Probable Mode Of Action Of *Kalka*:

- Drug administration in the form of *Kalka* can prove to be an effective and easy mode of treatment which is mainly due to *Katu, Tikta, Kashaya rasa praadhanyatha* which in turn does *Srotho Shodhana, Kandughna, Sravahara* and *Kaphahara*.
- It helps to clear and restore the vaginal flora as extracts of *Brhati Phala, Haridra* and *Daru Haridra* with Antifungal, Antibacterial, Anti-Inflammatory Actions.
- *Haridra* has property of bio-availability enhancer, which explains the ability of the drug

to permeate through the vaginal mucosa and exhibit target specific action

- Local application of *Kalka* acts as a hygroscopic substance provides quick relief in symptoms of Candidiasis comparatively better than oral treatment, application of once daily provides more area of effect and left to retain for 3- 4 hours allows sufficient time for absorption and become more effective in reliving symptoms.
- The *Candida (krimi)* being a persistent organism requires such effective intervention is achieved as as all three drugs are having *Krimighna* (Anti Fungal, Anti Microbial Property) And *Kaphaghna* Action
- In almost all *Stree Rogas - Yoni Prakshalana* is done to have action of *Yoni Vishodhana*. On this basis here also *Yoni Prakshalana* with *Sukhoshna Jala* was planned in *Paschata karma* after removal of *Kalka*. Any *dravya* administered through *Yoni Marga* should be retained for

Muhurdharya or *Kshanam Dharya* as explained in *Charaka Chikitsa Sthana*.

- Thus *Kalka* with *Katu*, *Tikta*, *Kashaya Rasa*, *Laghu*, *Rooksha*, *Ushna*, *Teekshna Guna* and *Krimighna*, *Kaphaghna*, *Kandughna*, *Vedana Sthaapaka* property relieves *lakshanas* of *Kaphaja Yoni Vyapat* effectively.

Sukhoshana Jala: According to *Acharya Sushruta* properties of *Sukhoshna Jala* are *Kapha-medo-anilaghana* and *basti shodhana*. *Acharya Vagbhatta* quotes *Laghu*, *Ushna* and *Basti Shodhana*. *Arunadatta* clarifies *Basti Shodhana* is *Mutrashaya Shodhana*. On this basis, to maintain *Vishuddhatha* in *Yoni Pradeshha* as well it is having *Kaphaghana*, *Laghu*, *Ushna* Property – *Prakshalana* of *Sukhoshna jala* in *Paschata Karma* was planned for the study.

Mechanism Of Absorption:-

Rate of absorption of drugs is mainly through mucosal layer by –

- Diffusion through the cell due to a concentration gradient (trans cellular route),
- Vesicular or receptor-mediated transport mechanism, or
- Diffusion between cells through the tight junctions (intercellular route)

In some cases, drugs given by the intra-vaginal route have a higher bioavailability compared to the oral route as it bypasses the liver. The wall of the vagina is very convenient for the immersion of drugs for systemic use, since it carries a vast network of blood vessels. Moreover the anatomically backward position of the vagina helps in self containing the drug thereby holding it in situ for a longer duration.^[13]

CONCLUSION

Candidiasis is one of the very common gynaecological ailments among unmarried women. Among 20 *Yoni Vyapats* *Kaphaja Yoni Vyapat* is the very commonest one which affects women with *Kandu*, *Sraava* in *Yoni Pradeshha* the degree of which may hamper even her daily activities. This can be co-related to Candidiasis as there is similarity in *nidana* and *lakshanas* exhibited by *Kaphaja yoni vyapat* which was understood by analyzing literature.

Drugs of *Kalka* like *Brhati Phala*, *Haridra* and *Daru Haridra* were selected from the context of *Chikitsa* of *Yoni Kandu* which is *Pratyatma Lakshana* of *Kaphaja Yoni Vyapat* quoted by *Acharya Sushruta*. And in this present study *Brhati Phala Dwiharidra kalka Yoni Puran* showed clinically as well as statistically significant results in relieving cardinal features of *Kaphaja Yoni Vyapat*. Thus *Vyadhi Pratyanka Chikitsa* is achieved.

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