

## A STUDY OF LUKOL IN LEUCORRHOEA, PELVIC INFLAMMATORY DISEASES AND DYSFUNCTIONAL UTERINE BLEEDING

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**ABSTRACT:** *Leucorrhoea and dysfunctional uterine bleeding are very common and significant clinical manifestations seen by the gynecologist in their day-to day practice and these complaints are sufficient to create distress in females. Lukol has shown efficacy in symptomatic relief in these conditions. A total of sixty cases were registered after a complete detailed investigation. Lukol 2 tablets thrice a day were administered and reviewed after 15 days. The response assessed on the basis of symptomatic improvement.*

### INTRODUCTION

Among various gynaecological disorders leucorrhoea, pelvic inflammatory diseases (PID) and dysfunctional uterine bleeding (DUB) are very common conditions. Though these are quite different diseases yet, mostly all respond to astringent, anti-inflammatory and styptic drugs, correcting the metabolic processes in the body.

Vulvovaginitis is generally considered to be the most common gynaecological problem in premenarchal girls, although the actual incidence is unknown. Several factors are said to contribute to inflammation of the genital area. These include relatively less protective covering of the introitus by the labia majora, low oestrogen concentrations leaving the vaginal mucosa susceptible to irritants (Such as bubble bath), poor hygiene, and infection by specific pathogens<sup>1</sup>. Researchers in previous study have shown that the last two factors were common in causing vaginitis<sup>2,3</sup> Leucorrhoea is characterized with painless white discharge per vaginum and is a symptom of

many underlying diseases. The aetiology includes excessive coitus<sup>4-7</sup> abortions, non cleanliness, improper diet, constipation besides cervical erosion and PID etc.

The infection of cervix, corpus, fallopian tubes, ovaries, parametrium and pelvic peritoneum is clinically termed as pelvic inflammatory disease. The aetiology includes pyogenic, gram positive and negative bacteria, tubercular and syphilitic organisms, parasitic fungal or other infections. Due to relatively less blood supply, and lack of oral or parenteral drugs, PID turns chronic, characterized by mucopurulent vaginal discharge, backache, fever and pain in lower abdomen<sup>~''</sup>.

Irregular, excessive or prolonged menstrual bleeding without demonstrable pathology is termed as dysfunctional uterine bleeding. Change in the rhythm of hormonal secretion and emotional disturbances leading to abnormal pituitary secretions as a result of altered hypothalamic signals lead to

DUB<sup>7,8,10</sup> Thus, no significant abnormality is found in the ovarian and endometrial pictures except abnormal pelvic congestion.

## **MATERIALS AND METHODS**

A Clinical trial was conducted in patients to evaluate the efficacy of Lukol in leucorrhoea DUB and symptoms of pelvic inflammatory disease.

### **Criteria of Inclusion of Patients**

1. Women with leucorrhoea in the age group of 25-55 years.
2. Women with dysfunctional uterine bleeding from puberty to premenopause.
3. Women with symptoms of pelvic inflammatory disease in reproductive age group of 20-35 years.

### **Criteria of Exclusion of Patients**

1. Pregnancy
2. Patients with psychosis and organic brain damage
3. Any organic pathology of reproductive or other system
4. Severe hepatic, cardiac or renal diseases, diabetes mellitus.

Sixty females with the above criteria were registered for the study. In these cases age, parity, chief complaints with duration, detailed menstrual and obstetric history were recorded and complete general, systemic and gynaecological examinations were done.

In the first visit when women were registered for leucorrhoea, PID and DUB few investigations like blood for TLC, DLC, Hb% etc. and urine for routine and microscopic examinations were advised. If all these investigations were normal and

there was no other systemic disease or any recognizable organic pathology only then were they selected for the study. All the patients were advised Lukol tablet at a dose of 2 tablets, three times daily for 15 days. The duration of treatment was in accordance to the relief in symptoms, however, DUB cases were given the drugs for three consecutive months, All the cases were followed for 6 months. The results were assessed on the basis of symptomatic improvements.

## **OBSERVATIONS, RESULTS AND DISCUSSION**

As the conditions taken for study are the ailments mostly of a active reproductive age, majority of cases were in the age group of 20-30 years, however maximum cases in the different disease groups were between the age group of 20- 25,30-35 and 20-30 years in leucorrhoea, PID and DUB.

Twelve women were nulliparous and others had 1-3 children. Nulliparity and only one child were the common findings in leucorrhoea and PID, while multiparity was the common finding of DUB (Table 1).

Maximum cases in all the disease were housewives coming from lower or middle class, however, In DUB upper and middle service class women dominated (Table 2).

In women suffering from leucorrhoea and PID maximum frequency of sexual intercourse was observed to be daily followed by alternate day, while in DUB cases frequency was once or twice in a month, probably because of marked ill health or more duration of bleeding period.

Hygienic status appears to be directly related to socio-economic status as it was observed that patients having leucorrhoea and PID

had poor hygienic status, while DUB was found in women observing average hygiene.

Women consuming non-vegetarian food were more in leucorrhoea and DUB, while vegetarian women were more in PID, which could be due to relatively small sample size

Vaginal discharge with pain and itching in vulva and vagina and painful coitus were the chief complaints among patients with leucorrhoea while vaginal discharge, pain in lower abdomen, backache, pain during menstruation and irregular menstruation were the common complaints of PID cases. Women with DUB were suffering from excessive bleeding, early periods, weakness and palpitation, Almost all cases registered for leucorrhoea had normal intermenstrual period, normal duration of menstrual bleeding except 1 (5% had only one day bleeding ), had normal amount and consistency of menstrual blood except 5 (L25% scanty and thin blood loss). In PID group, 12 cases had shorter intermenstrual period, 95% had normal amount and consistency (25% had scanty thin blood loss).

In DUB group menstrual abnormality in all the parameters of observation was seen in most of the cases as shown in Table 3.

In less and moderate bleeding, pain was common finding in the PID and Dub patients.

Patients suffering from leucorrhoea had no pain before or during menstruation (Table 4).

Maximum leucorrhoea cases had moderate, thin or thick curdy, whitish or yellowish vaginal discharge with no smell. In DUB cases only 5 (25%) cases had mild, thin, whitish vaginal discharge with no smell. In

the women who suffered from PID vaginal discharge was seen to be moderate in amount, mucopurulent, yellowish or whitish with obnoxious smell (Table 5).

Most of the leucorrhoea and DUB cases had normal vulva, vagina and cervix, uterus size, anteverted uterus and up-right uterus, freely mobile with non-tender fomices, while in PID cases most common findings were vulva, vagina and cervix congested, uterus was retroverted normal in size, restricted mobility with tender fornics (Table 6).

None of the cases registered had any other abnormality of reproductive and other system. All the cases were given Lukol tablets.

Great variation of improvement in specific symptom was seen in all the three disease groups. Leucorrhoea cases reported improvement within 7-10 days after treatment and complete recovery within one –month period.

Improvement in PID cases was slightly delayed, which started during second follow up, i.e. after 30 days, however, total relief was reported after 45 days.

As improvement in DUB cases cannot be seen before onset of next cycle, relief was noted only after one month and complete recovery after three months in most of the cases.

Corresponding to improvement in principle diseases associated symptoms also diseases associated symptoms also showed improvement. HP% also increased.

No recurrence was seen within the period of follow-up, i.e six months. Maximum improvement in cases of leucorrhoea, PID and DUB was respectively noted within one,

two and three months. Continuation of further treatment showed no change.

Lukol consists of 25 ingredients, Table: 0 which include Trivanga and Loh bhasma metallic Preparation. Out of herbal drugs good number have Tikta and Kashay rasa. Laghu and Ruksha guna, Ushnavirya and Katu Vipaka. All these properties suppress Kapha and normalize Pachakagni (digestive fire) thereby Dhatvagni (cellular metabolism), beside Kashayarasa is also astringent. Guggulu, Trivanga are shothagna or anti inflammatory, Kaphagna property coupled with anti-inflammatory and appetising properties of the drugs might have been responsible for normalization of aggravated kapha.

In majority of the cases of PID some irregularity of menstruation is seen. Guggulu is artavajanana drug. The inflammation of any part is due to vitiation of Pitta, since some of the drugs have katu Vipaka which properties increased pitta, while others of Kasaya, Tikta, Madhura rasa. Sheet virya, madhur Vipaka suppress the pita. Due to these mixed properties of constituent's very good effect of PID were not observed, however anti-inflammatory property of triphala. Trivanga and guggulu did give efficacy in some cases.

In comparison to the PID cases better cure in DUB is noted. Though hypothetically reasons discussed under PID have operated thus amount of bleeding should have

increased, however strong kashay and Rakta-stambhaka properties of Dhatki, Nagkeshara, etc., drugs along with Tirvanga, Loh bhasma reduced the amount of bleeding hence improvement in DUB is noted. It appears that the drugs acted most by its prabhava. In summarizing it can be said that beneficial effect of Lukol is probably due to anti-inflammatory, astringent, appetizing properties of different drugs, better appetite and disestion with regular bowel movement, improve general health besides psychological satisfaction also might have helped in pelvic congestion.

### CONCLUSION

1. Lukol is very effective drug in leucorrhoea.
2. Lukol gives good results in DUB cases.
3. The efficacy of Lukol in PID cases need further study.
4. In overall observation the drug Lukol seen to be mild anti-inflammatory, astringent, appetizer, it improves general health and feeling of well-being thus better efficacy in leucorrhoea and DUB cases.
5. With regard to PID unsatisfactory response may be due to less anti-inflammatory property and negligible antibacterial effects.

**Table 1: Showing age and parity incidence**

Age In years	Total cases (n=60) No. (%)	Leucorrhoea (n=20) No(%)	PID (n=20) NO.(%)	DUB (n=20) no(%)	Parity in No (n=60)	Total cases (n=60) No.(%)	Leucorrhoea (n=20) No(%)	PID (n=20) NO.(%)	DUB (n=20) no(%)
15-20	7(11.67)	2(10)	4(20)	1(5)	0	12(20)	6(30)	4(20)	2(10)
20-25	17(28.33)	10(50)	1(5)	6(30)	1	18(30)	9(45)	8(40)	1(5)

25-30	12(20)	2(20)	1(5)	9(45)	2	12(20)	2(10)	5(25)	5(25)
30-35	15(25)	4(20)	9(45)	2(10)	3	9(15)	1(5)	2(10)	6(30)
35-40	6(10)	2(10)	3(15)	1(5)	4	7(11.67)	1(5)	1(5)	5(25)
Above 40	3(5)		2(10)	1(5)	Above 4	2(3.33)	1(5)		1(5)

PID: Pelvic Inflammatory Diseases

DUB: Dysfunctional Uterine Bleeding

**Table-2: Showing socio – economic and occupational status**

Socio-economic status	Total cases (n=60) No.(%)	Leucorrhoea (n=20) No(%)	PID (n=20) N0.(%)	DUB (n=20) no(%)	Occupational status	Total cases (n=60) No.(%)	Leucorrhoea (n=20) No(%)	PID (n=20) N0.(%)	DUB (n=20) no(%)
High class	14(23.33)	3(15)	3(15)	8(40)	House Wife	40(66.67)	18(90)	17(85)	5(25)
Middle class	24(40)	10(50)	7(35)	7(35)	Service	20(33.33)	2(10)	3(15)	15(75)
Low class	22(36.67)	7(35)	10(50)	5(25)					

**Table 3: Showing intermenstrual period durational of bleeding**

Inter-menstrual period in days	Total cases (n=60) No.(%)	Leucorrhoea (n=20) No(%)	PID (n=20) N0.(%)	DUB (n=20) no(%)	Duration of bleeding	Total cases (n=60) No.(%)	Leucorrhoea (n=20) No(%)	PID (n=20) N0.(%)	DUB (n=20) no(%)
20-21	19(31.60)	-	12(60)	7(35)	0-1	2(3.33)	1(5)	1(5)	-
24-28	36(60.00)	18(90)	6(30)	12(60)	1-3	26(43.33)	12(60)	11(55)	3(15)
30-35	5(8.33)	2(10)	2(10)	1(5)	3-5	20(33.33)	5(25)	8(40)	7(35)
					5-8	12(20.00)	2(10)	-	10(50)

**Table 4: Showing amount and consistency of menstrual bleeding**

Amount of menstrual bleeding	Total cases (n=60) No.(%)	Leucorrhoea (n=20) No(%)	PID (n=20) N0.(%)	DUB (n=20) no(%)	Consistency of menstrual bleeding	Total cases (n=60) No.(%)	Leucorrhoea (n=20) No(%)	PID (n=20) N0.(%)	DUB (n=20) no(%)
Scanty	11(18.33)	5(25)	6(30)	-	Thin	11(18.33)	5(25)	6(30)	-
Normal	27(45)	15(75)	10(50)	2(10)	Normal	30(50)	15(75)	10(50)	5(25)
Excessive	22(36.66)	-	4(20)	18(90)	Clotted	19(31.66)	-	4(20)	15(75)

**Table-5: Showing amount and consistency of menstrual bleeding along with severity of pain**

Severity of pain	Total cases (n=60) No.(%)	Leucorrhoea (n=20) No(%)	PID (n=20) No.(%)	DUB (n=20) no(%)
Premenstrual:				
a) Mild	6(10)	1(5)	3(15)	2(10)
b) Moderate	3(5)	-	2(10)	1(5)
c) Severe	1(1.67)	-	1(5)	-
Menstrual:				
a) Mild	10(16.67)	1(5)	5(25)	4(20)
b) Moderate	11(18.33)	-	6(30)	5(25)
c) Severe	5(8.3)	-	3(15)	2(10)
Without pain	24(40)	18(90)	-	6(30)

**Table-6: Showing amount and character of vaginal discharge**

Character of vaginal discharge	Leucorrhoea (n=20) No(%)	PID (n=20) No(%)
Amount:		
a)Mild	3(15)	6(30)
b)Moderate	10(50)	13(65)
c)Sever	7(35)	1(5)
Consistency:		
a)Thick curdy	8(40)	6(30)
b)Mucopurulent	-	10(50)
c)Thin	12(60)	4(20)
Smell:		
a) No smell	12(60)	4(20)
b) Abnoxious	8(40)	16(80)
Colour:		
a)Whitish	11(55)	8(40)
b)Yellowish	8(40)	10(50)
c)Pinkish	1(5)	2(10)

**Table 7 : Showing finding of P/S and P/V examination**

P/S and P/V findings	No.of Patients	Leucorrhoea %	No.of Patients	PID %	No.of Patients	DUB %
Vulva and Vagin:						
a) Normal	12	60	18	90	19	95
b) Congested	8	40	2	10	1	5
Cervix:						
a) Normal	12	60	2	10	17	85
b) Congested	8	40	18	90	3	15
Uterus:						
a) Normal size	14	70	16	80	15	75
b) Subnormal size	6	30	-	-	-	-
c) Slightly bigger	-	-	4	20	5	25
A.V.	8	40	10	50	6	30
R.V.	5	25	4	20	2	10
Up-right	7	35	6	30	12	60
Uterus mobility:						
a)Freely mobile	19	95	2	10	16	80
b)Restricted mobility	1	5	18	90	4	20
Forix:						
a) Non-tender	20	100	-	-	13	65
b) Tender	-	-	20	100	7	35

**Table 8: Showing changes in chief complaints and associated symptoms**

Chief complaints	Leucorrhoea		PID		DUB	
	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Vaginal discharge	20	2	20	4	5	0
Itching in Vulva & Vagina	8	6	2	2	1	1
Painful coitus	8	0	18	9	2	0
Pain in Vulva & Vagina	8	1	18	9	6	0
Pain of lower abdomen	5	2	20	15	5	10
Pain during and before menstruation	2	2	20	18	14	3
Excessive bleeding	-	-	5	2	18	4
Scanty bleeding	5	5	5	5	-	-
Irregular menstruation	2	0	10	4	4	0
Early menstruation	-	-	12	7	7	1
Increased frequency of micturition	5	2	15	5	2	0
Backache	6	2	20	4	5	2
Loss of Appetite	5	0	10	0	10	0
Burning feet syndrome	1	0	2	0	20	12
Weakness	1	0	2	0	20	14
Palpitation	5	1	2	0	17	15

**Table 9: Showing changes in hemoglobin (gm%) after treatment**

Chief complaints	Leucorrhoea		PID		DUB	
	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
8.0	-	-	-	-	4	0
8.5	-	-	1	0	4	0
9.0	1	0	2	0	4	2
9.5	5	0	4	0	5	5
10.0	2	1	2	1	3	6
10.5	3	3	3	3	-	5
11.0	4	5	3	7	-	2
11.5	3	4	2	5	-	-
12.0	2	7	3	4	-	-

**Table 10: Final outcome**

Severity of pain	Total cases (n=60) No.(%)	Leuco-rrhoea (n=20) No(%)	PID (n=20) No.(%)	DUB (n=20) no(%)
Cured	22(36.66)	14(70)	2(10)	6(30)
Improved	20(33.33)	3(15)	9(45)	8(40)
Partially improved	1.(16.67)	1(5)	5(25)	4(20)
Unchanged	8(13.33)	2(10)	4(20)	2(10)

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