The Potential of *LAGHU MALINI VASANT* in the treatment of LUTEAL PHASE DEFECT

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Abstract:

Luteal phase is the period of menstrual cycle which occurs after ovulation i.e. after 16th day of menses according to modern science. According to *Ayurved*, it is the *rutavyateetha kala* which starts after 16th day of menses. Hence, as the time period is same, it can be considered that, *rutavyateetha kala* is the luteal phase of menstrual cycle. Any defect in luteal phase can be considered as the defect of *rutavyateetha kala*. The inner most part of *garbhashaya*i.e. uterus, is called *garbhashayya* i.e. endometrium. It is filled with minute hair like capillaries which nourishes it and also the embryo after fertilization *(Vishvamitra).* Any defect in it will lead to implanataion failure. Georgeanna Jones, first described luteal phase defect as the inadequate secretory transformation of endometrium, resulting in deficient progesterone production by corpus luteum causing recurrent habitual abortions and infertility. Till date there is no specific pathology, definite diagnostic criteria and treatment explained for LPD. Hence, it is the need of time to find a definitive alternative treatment for LPD. After studying the treatment given by various *Ayurvedic Vaidayas*for habitual abortions, implantation failure, scanty menses, it can be concluded that LMV is the choice of drug for treating the above condition.

Keywords: LPD, LMV

Introduction:

Luteal phase is one of the phase of Ovarian cycle which, starts after ovulation and remains till the start of next menstrual cycle. This phase deals with ovulation and formation of corpus luteum i.e. the remaining part of the mature follicle after release of ova.Corpus luteum is responsible for the production of serum progesterone,responsible for the growth of endometrium so, that it gets prepared for implantation ofembryoif fertilization occurs. Any deformity in these phase leads to infertility.

Luteal phase can be correlated with *rutavyeetakala*.According to Ayurved,theperiod after

ovulation i.e. after the 16th day of menses is considered as *rutavyeeta kala*and according to modern science it is considered as luteal phase. Hence, considering their period of occurrence, they both can be correlated.

Luteal phase defect is caused by deficient progesterone secretion from the corpusluteum or failure of the endometrium to respond appropriately to ovarian steroids. Itcan also be said that, LPD is a defect of corpus luteum progesterone output- both in amount and duration- resulting in inadequate stimulation of the endometrium for implantation of the blastocyst.The luteal phase involves, creation of an optimal hormonal environment as well as adequate endometrial transformation for implantation. Alteration of any of the factors that contribute to a normally functioning corpus luteum may thus,deleteriously affect the endometrium and embryonic implantation resultingin Luteal PhaseDefect.

*Vasant kalpas*are in use by various *Ayurvedic* practitioners as a rasayanas from ancient period in such conditions.*Vasantkalpas* are the *Kharaliya Rasayana kalpanas*,explained in *Ayurveda*. *Vasant*, symbolizes greenery and reproduction similarly, these kalpas work so ncellular rejuvenation and acts as *Rasayana* and immune booster. In preparation of these *Rasayanas*, various methods are used whichnot only alters the potency of the drugs, but are also capable to bring changes incharacteristics of drug viz. regulation, addition of new or deletion of undesirablecharacteristics and make it easier for absorption in body.*Laghumalinivasant* is one of the *vasantkalpas* explained in *Ayurveda.*
Laghumalinivasant with its attributes acts as *rasaphoshak,yogavahi,deepan,pachaak*etc.on *rasavaha*and *raktavahasrotas*. These are responsible *dhatu* fornourishmentofthe after*dhatus* as *upasnehannyaya*.

Need of the Study:

Laghu Malini Vasant, an ayurvedic formulation has been used by *Ayurvedic Vaidayas* since long is considered as the choice of drug in similar conditions like this. Though,there is no direct reference or data available till date. This is the first study in its kindwhich has been successfully conducted to overcome the implantation failure rate bycorrectingLuteal phaseDefect.

Objectives:

- Conceptulaization of Luteal Phase Defect and *Ayurvedic* concept.
- To study the effect of *Laghu Malini Vasant*on Endometrial Thickness.
- To study the effect of *Laghu Malini Vasant* on Corpus Luteal Blood Circulation.
- To study the effect of *Laghu Malini Vasant* on Serum Progesterone Level.
- To study any untowards effect if any

Review of Literature:

Luteal in sufficiency in first trimester By: Duru Shahand Nagadeepti Nagarajan

Luteal phase insufficiency is one of the reasons for implantation failure and has been responsible form is carriages and unsuccessful assisted reproduction.Luteal phase defect is seen in women with polycystic ovaries, thyroid and prolactin disorder. Lowprogesterone environment is created iatrogenically due to interventions in assistedreproduction. Use of gonadotrophin-releasing hormone analogs to prevent the LHsurge and aspiration of granulosa cells during the oocyte retrieval may impair the ability of corpus luteum to produce progesterone.Treatment of the underlying disorder and use of progestational agents like progesterone/humanchorionic gonadotrophin have been found to be effective in women with a history of recurrent miscarriage.

Luteal Phase Deficiency: Pathophysiology, Diagnosis, and Treatment

LPD is a subtle disorder of corpus luteum function and has a multifactorial cause. Current evidence in the medical literature confirms its existence, but investigations to date have failed to characterize its true incidence conclusively. The diagnosis is best made by measuring serum progesterone levels daily throughout the luteal phase. The best means of estimating luteal phase function available to clinicians is three pooled mid luteal progesterone levels. Despite the lack of randomized, controlled trials proving efficacy of treatment, compelling reports point to improved pregnancy rates when treatment results in normalization of TEB. In consideration of the cost-benefit

Treatmentof Luteal Phase Defects in AssistedReproduction By: Elkin Munoz, Esther Taboas, Susana Portela, Jesus Aguilar.

Abnormal luteal function is a common issue in assisted reproduction techniques associated with ovarian stimulation probably due to low levels of LH inthe middle and in the late luteal phase.This defect seems to be associated with supra physiological steroid levels at the end of follicular phase.The luteal phase insufficiency has not got a diagnostic test which has proven reliable in a clinical setting. Luteal phase after ovarian stimulation becomes shorterand insufficient, resulting in lower pregnancy rates. Luteal phase support with progesterone or hCG improves pregnancy outcomes and no differences are found among different routes of administration. However, hCG increases the risk of ovarian hyperstimulation syndrome. In relation to the length of luteal support, the day of starting it remainscontroversial and it does not seem necessary to continue once a pregnancy has beenestablished. After GnRHa triggering ovulation, intensive luteal support or hCG boluscan overcome the defect in luteal phase, but more studies are needed to show the LHutilityas support.

Research Methodology:

DRUG*: LAGHUMALINI VASANT*

CONTENTS: 1.*Maricha 2. Rasakbhasma 3.Nimbuswarasa 4.Navneet*

COLLECTIONOFDRUGS:

- RawmaterialswerebroughtfromlocalAyurvedic store.
- Drug will be prepared byVenkatesh Pharmaceuticals, Pune..
- Drug Standardization and Authentication Certificateissued from Venkatesh Pharmaceuticals Company.

No Objection Certificateissued from Venkatesh Pharmaceuticals Company

A) Laghu Malini Vasant Vati–

Figure 1: **:Preparationof*LaghuMaliniVasantVati***

PREPARATIONOF*LAGHUMALINIVASANT* :

1. *Rasak Bhasma* was taken in *khalvayantra*.
2. To this fine powder of *maricha* was added.
3. Levigation process was done till mixture became homogenous.
4. Freshly prepared *navneet*was added little by little till whole mixture becamemoist.
5. Levigation was carried out until the mixture turned into doughy consistency.
6. Lemon juice was addedin repetitive manner to the mass and levigation was carried out simultaneously in mechanical wet grinder until greainess of mixture disappeared.
7. Tablets were formed in the quantity of 250gramsand stored in airtight container.

TREATMENTDETAILS: (Table no.6)

A)	Dose	250mgtwiceaday.
B)	Form	*Vati(Tablet*)
C)	Time	*Rasayanakala*(Morning6amandEvening6pmonempty stomach)
D)	*Anupan*	*Madhu*5 ml
E)	*Pathya*	*Dugdha*andButter(Navneet)
E)	Followup	Afterevery15daysi.e. 2nddayand17thdayofmenses.
F)	Route of Administration	Orally
G)	Duration	From5thdayofmenstrualcycleto1stdayoffollowing menstrualcyclefor3consecutivecycles.

INTERVENTION

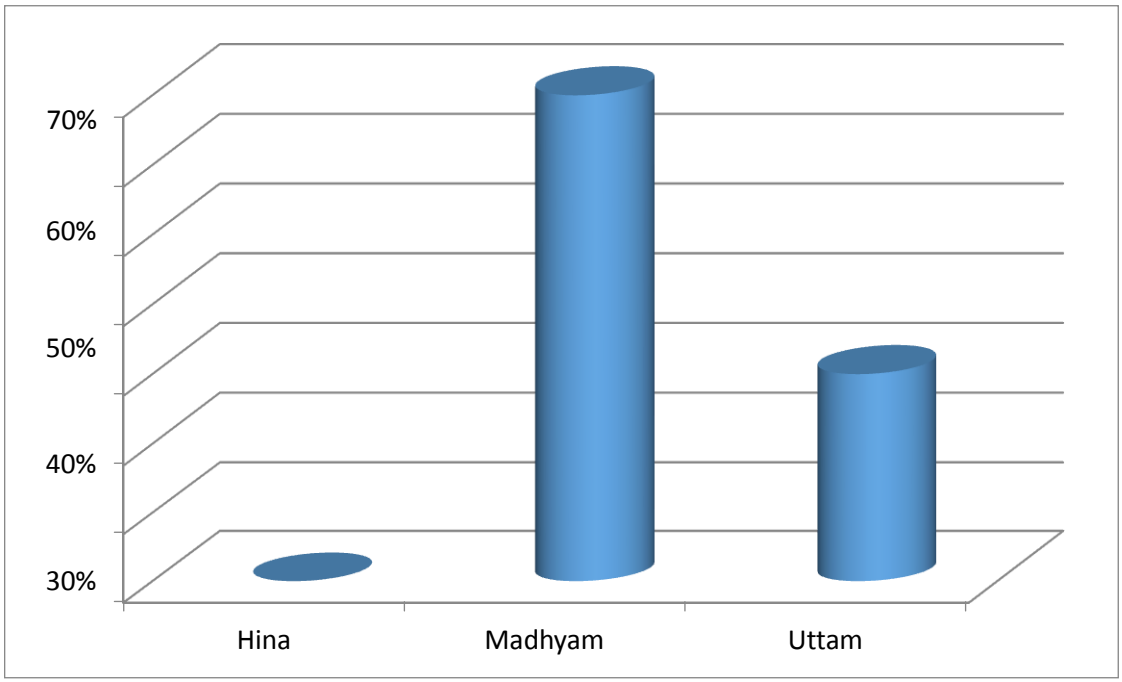
10 Patients satisfying with selection criteria were selected for study and their primary data was collected by interview, observation and relevant investigations.USG and other laboratory investigations were done prior to the administration ofmedicine. The study drug Laghu Malini Vasant was given to the patients and advisedto use in the dose of250 mg twiceaday with 5ml Honey. Honey was usedasanupana. The patients were asked to report every 15 days i.e. 2nd day and 17th day ofmensesfor follow up.The studydrugwasgivenFrom5thdayof menstrualcycle to1stday of following menstrual cyclef or 3 consecutive cycles of period and then data was recorded.

Observation and Analysis:

Percentage distribution according to *Agni* Tableno. 1

Agni	**BT**	**Percentage**	**AT**	**%**
Hina	0	0%	0	0%
Madhyam	7	70%	2	33.3%
Uttam	3	30%	8	67.7%

Graphno.1



Out of 10 patients, 7 (70%) patients were with *madhyamagni*, 3 (30%) with *uttamagni*before treatment and after treatment 2 (20%) patients had*madhyamagni*, 8(80%)patients had *uttamagni*.

Discussion :

Most of the patients had *madhyamagni* before treatment. And after treatmenthad *uttamagni*. As the content in Laghu Malini Vasant does *agnivardhan*and*pachana*, thus it improves the *agni*at all the levels. Thus, it can be said, that *Laghumalini vasant* acts as *Agnivardhak*.
Ayurveda quotes, that important causative factor of all diseases is *mandhaagni*(low digestive power).As*agni*(digestive power) isimprovedbecause of*Laghumalinivasant*, *sukshmapachan*is also improved as a result of whichtherewas increased in theendometrial thickness.

Conclusion:
According to modern science researches for implantation vitamin C,VitaminK, vitamin E, zinc, L-Arginine etc. are needed. LMV contains all these contents necessary for implantation. In this study it was observed that there was improvement in endometrial thickness, serum progesterone and ovulation occurred in most of the patients. Large data is needed to prove this action in detail.
After studying the research articles available, following conclusions could be drawn.

- There is no specific diagnostic criteria for luteal phase defect.
- There is no definitive pathology of luteal phase defect.
- There is no specific treatment protocol for luteal phase defect.
- Researches suggest that Laghumalini vasant can be used for recurrent habitual abortions, infertility, IUGR (Intra uterine growth retardation) etc.

- Laghumalinivasant is having anti- microbial activity. Thus, it acts on the intra-uterine infections, which is one of the pathological condition leading to luteal phase defect

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