The present investigation explored the scope of identifying environmental as well as iatrogenic factors in the clinical condition called ‘pradara’. It also provided definite opportunity in the management of ‘pradara’ based on reliable and dependable parameters.

‘Pradara’ denotes excessive discharge pervaginum. In the context of the present study bleeding per vaginum was considered and other discharges were excluded, so as to be termed as ‘raktha pradara’. Other Ayurvedic references on clinical conditions like ‘adhoga rakthapitha’ and ‘udavartha’ share similar symptoms, but are excluded in this context. ‘Pradara’ is a common disorder of the females in the reproductive age causing physical, emotional, social and economic constraints.

Under the current gynaecological considerations bleeding per vaginum, is multifactorial presented as the leading symptom of different discuses. In this context, Dysfunctional Uterine Bleeding (DUB) is a diagnosis of exclusion having the absence of structural or functional pathologies like benign or malignant neoplasms, or infections. DUB represents disorders characterized by dysfunction of uterus, ovary, pituitary, hypothalamus or other parts of the reproductive system that results in abnormal/excessive uterine bleeding.

A logical attempt to understand the Ayurvedic clinical condition called ‘pradara’ arrives at a stage that all the features and descriptions can be reasonably correlated with DUB. Hence the present study was designed and conceived to the effect that ‘pradara’ and Dysfunctional Uterine Bleeding were treated in the same parlance.
Based on the foregoing discussions the researcher planned the investigation to (i) evaluate the significance of environmental and iatrogenic factors precipitating ‘pradara’ (DUB) (ii) assess the efficacy of two Ayurvedic formulations namely Asoka Kwadha, and Musaleekhadiradi Kwadha, administered internally. Choice of the test drugs was based on the classical references, popular use, cost effectiveness and simplicity of the formulations.

The research study was conducted during 2000 December to September 2007 in the out patient department at Vaidya Ratnam Ayurveda College Hospital Ollur. Kerala; where the investigator works as a teaching faculty. Being a teaching hospital catering thousands of patients there were good number of cases diagnosed as DUB following the exclusion criteria.

A total of 200 females suffering from dysfunctional uterine bleeding were selected and randomly allotted to group A and group B. Both groups were wholly considered in terms of the parameters of iatrogenic and environmental factors related to pradara. In the second phase, group A were put on Asoka Kwadha 50 ml. twice a day and group B received musaleekhadiradi Kwadham 50 ml. twice a day. Parameters for the diagnosis and further assessment were universally applied for both groups.

The preliminary study conducted for optimizing the techniques, the initial drug proposed for group A was asokarishtam. A close scrutiny revealed that patient compliance of the test drug asokarishtam was poor in the clinical research set up. Accordingly this constraint was taken up with the supervisor and asoka kwadha was chosen as the viable alternate after considering relevant clinical and ethical issues.
The drug asoka and compound formulation Musaleekhadiradi Kwadham figure prominently in the Ayurvedic gynaecological practice. There are widely used in all sorts of bleeding disorders in women. Specific clinical conditions like DUB also responds well to this regimen. However a scientific study across large populations is needed to assess the advantage and benefits of these drugs. Curiously enough the single drug asoka is absent in the formulation musaleekhadiradi. The chosen drugs are classically indicated, clinically proved, easily available and is free from serious adverse effects.

In order to over come the possibility of adulteration especially in case of asoka the sample was inspected, identified and approved by the Department of Dravyaguna VAC Ollur, each time.

The feasibility of a regular pattern of drug administration was ensured by supplying the patient with sealed doze packets of the test drugs sufficient for one month, and repeated supply was made every month throughout the period of the study. Patients were educated hands on in the daily preparation of required quantity of drug.

The patients in both groups A and B were advised to avoid meat and fish, pickles, curds, fried food, oily food, junk food and cola.

Patients were also advised to limit excessive drinking of coffee/tea, excessive eating, untimely diet and stress. Abstinence from heavy works, day sleep, along with minimally controlled coitus, were also advocated.

Group B patients were advised to take complete rest during menstrual period. Strict advise were given to Group B patient to avoid eating in an
inappropriate time. Timely intake of food, proper sleep, avoid travel and exposed to heat and fumes and dust were advised. Instructions were given to take congenial food that are devoid of hot, spicy, cold etc. and do not take refrigerated food.

Demography

Screening of the average age of incidence of pradara (DUB), it was noticed in 21-30 years age group, accounted to 55% across both the groups. This finding goes parallel to the national statistics as far as DUB is concerned. This age group represents overall balanced functioning of female sex hormones and those are essentially having active physical and reproductive life events.

Females residing in rural areas dominated at the rate of 71% among the two groups indicating that rural population has limited chances of health education and lack of availability of specialized medical services. 26 percentage of urban females recorded in the study is considerable and the role of environmental and life style factors in DUB can be analysed across this slice of sample.

Analysis of the socio economic status revealed that 58% belonged to the lower class (under – privileged). Nearly one third of the total population in the study falls under the middle class average income Rs.3000. Incidence of DUB is partially a case of poor economic status when early care interventions are not possible and incumbents destined to live with a progressive and traumatic gynaecological problem. Those who are financially placed better in the middle class have access to primary and
secondary level cure, DUB posed a challenge being refractory to conventional gynaecologic management protocol.

Education of subjects gives very good response with the advice given or any kind of treatment given. Maximum number of cases were observed having moderate education ie up to higher school (more than 60%). None was reported to be illiterate which shows the highest educational status of this area as well as that of this state, which is praised for having hundred percentage education of people throughout the nation. Education is a very important factor in this study that there are instructions regarding the treatment, padhya a padhya etc. In order to convince the importance of food habits, proper timing etc., and to avoid environmental pollutions, and instructions about taking rest were easily administered among the educated population.

The number of house wives were moderate (25%). The employed females with exposure to environment and traveling habits were maximum (65%). Women who are employed, whether it is hard work or office employed may have to travel daily either short or long distance. That traveling may not be very much comfortable and safe, either in bus or train due to heavy rush and no matter of the climatic changes like hot or rain. They are supposed to travel the peak hours in order to keep time punctuality. Their food habits also will be altered due to the heavy work load both from the work place and also from the household. They don’t even get time to look after their own needs like healthy food, good sleep, proper rest etc. They are always be physically and psychologically engaged in work and well not always aware of themselves.
Incidence of pradara was found to be more among married women (7:1). As per the findings, number of women with $\leq 2$ children were maximum in number 80% nulliparous women with $\geq 3$ children i.e., 7% and 15% multiparous. Pregnancy and delivery may cause certain changes in structural and functional units of hormones of reproductive organs which may increase the incidence of pradara.

Women become more responsible and job oriented hence they may not get proper care for themselves in concern with health modalities. To look after children, household duties and also employed women suffer from lack of rest, proper timing of food habits, travel long distances etc. During delivery and for the postnatal period also they may not get proper care and rest, and good and congenial food. The incidence of higher number of women in this category may be due to reasons as general body weakness, anemia, daily wear and tear of women in bringing up the children along with household works etc. The emotional, and psychological aspect play an important factor among this group, so it may directly affect the endocrine system and altered hormone status causing pradara etc. disorders.

Detailed history of regarding menstruation as menarchial age, characteristics of menstruation including duration, interval clots, colour, amount and body built of every patient were observed in all cases. The body built were observed and found that 75-80% of patients coming under moderate body built 15% were lean and 10% were obese. Thus it shows body built doesn’t influence the incidence of pradara or dysfunctional uterine bleeding
The age of menarche were observed was 70% between the ages of 13-14 years of age. Thus it shows that age of menarche may or may not influence the incidence of pradara.

This present study (Table No.10) gives valuable observations regarding duration, interval, clots, colour, amount as the parameter for menstrual characteristics. 80% of the patients had the durations of 9-11 days, which was an abnormal finding. There is a protective phenomenon for women to limit the amount of bleeding during menstruation. The occurrence of spasm in the straight stems of endometrial arterioles. This is seen about the time that bleeding commences and may be the result of the action of a menotoxin released from the degenerating surface endometrium, whose purpose is to limit the amount of bleeding from the arteriole. The amount of loss may also be controlled by muscular compression of the larger arteries as they pass through myometrium. It is also determined by the area of the endometrial bleeding surface and by the intensity of the previous hormone stimulus.

The duration of bleeding depends mostly upon the perfect functioning of the endometrium which brought about from the amount of hormones affecting the endometrium. If the hormone supply is altered the defective endometrium shows bleeding disorders like dysfunctional uterine bleeding. The psychological and emotional status of females and improper dietic habits and environmental factors will derange the hormone pattern.

Interval of menstrual bleeding was normal between 25-34 days among 80% of the whole cases there by showing no any relation with menstrual cycle and that the incidence of the disease. Even though 15% of cases were
reported to have 15-20 days cycle but on close observation, it was also found to be with 20 to 22 days. 93% of the patients reported as excessive amount of bleeding. 80% of cases reported to have severe presence of clots along with menstrual bleeding the symptoms are related to child bearing rather than a particular pregnancy and delivery. The subjects are usually overwhelmed by the care of their children and their home, they have little help, few holidays, and may be attempting additional work. These women also tend to suffer menstrual tension, colonic spasm, and other manifestations of a background of stress. It appears that the stress – induced situations are due to either higher cortical effect on the hypothalamic releasing factors, or the effect of neurohormonal substances from the central nervous system directly on the uterine vasculature. Changes in environment, nervous tension, anxiety states, unsatisfied sex urge, marital upsets, stress situations, over work are examples of the factors influencing this excessive bleeding. These factors operate possibly through the endocrine system which is influenced by the hypothalamus, through the autonomic nervous system which controls the blood vessels supplying the pelvic organs.

Having entered the uterine cavity the blood coagulates but the clot is mostly dissolved by thrombolysins released from the endometrium. Proactivator of plasminogen is present in the endometrium at all times and with the approach of menstruation, is converted to activator probably as a result of anoxia or breakdown of tissue. As a result of fibroinolysis the effluent. From the uterus consists of altered blood, rich in calcium but deficient in prothrombin and fibrinogen. The expulsion of this together with fragments of endometrium is brought about by uterine contraction. If this
mechanism is altered the blood become cloated and expelled as. So the endometrium fail to release the thrombolysins.

Personal habits seldom make impact on reporting of pradara, only one patient out of 200 is reported with tobacco, and no cases were found alcohol conception or drug abuse (Table No.11).

Study reported regarding outdoor air pollution that (Table No.12) the patents included in the study are either exposed to either of the three, categories, motor vehicles 30%, factory 40% and other sources 30%. Environmental factors are definitely influence the onset of the disease pradara. According to Ayurvedic concepts the menstrual blood is derived from the rasa, the ahara rasa. By the exposure to polluted air the blood purification will not take place, so the menstrual blood well be affected by the exposure, causing various gynaecological disorders like pradara.

When the data regarding the indoor air pollution (Table No.13) 86% of patients are exposed to wood stove smoke. 70% were living with dust pollution, 50% with allergens, 45% with construction materials, and some with fungal spore (20%). Among the patients, a majority coming under employed women, so they are exposed both to outdoor, and indoor pollutions. So we can came to the conclusion that all the time they were exposed to such pollutions. That may affect their emotional, and psychological status, impaired body functions. The hormonal functions depends on these functions so, they have a tendency to develop hormonal imbalance.

The incidence of industrial exposure revealed that 79% (Table No.14) were involved in contact with petroleum products either indirectly or
directly. Very negligible percentage was found in carbon products, rubber and plastic polymers. As previously explained they may affect the overall health of the females.

(Table No.15) 50% of cases reported to indulge by environment in rodenticides in agricultural hazards. 22% were exposed to herbicides, 15% with insecticides. A small come under fumigants and fungicides. As are know most of the cases reported from rural area where proper water resource management was not practiced, disposal of waste water, and solid waste material were not done. So they may be more exposed to such environment where, every thing they depend upon for daily living is contaminated. That are all influence the total health of the body, also the individual hygiene can cause various disorders.

Adulterated food materials are easily sold in rural areas, because they do not get proper education in the sense of identifying the adulterated food products. Pulses and cereals are mostly taken for adulteration and contaminants. The table No.16 shows 54% cases were exposed to mycotoxins, 46% to phytotoxins. Taking these food materials the digestive system is affected and improper production of body tissues, so their functions also will be impaired.

Agricultural pesticides is the most common factor among the indirect addictions. Table No.17 shows 75% exposed to this category. 25% are coming under indirect hormone consumption from animal products. 17.5 is a low percentage that are addiction to coffee or tea. The menstrual phenomina is a play of hormones, which should be in a definite pattern. But
these type of indirect exposure to such factors can alter the hormone regularities.

Low quality colouring agents, sweeteners, preservatives, and broiled meant have their own incidence rate on the cases. When verified 50% were taking broiled meat (Table No.18). Such preparations may interfere with the absorption also artificial colours (25%) preservatives (10%) sweetness (15%) can also alter the digestion, and the chyle formation, hence the Sapthaduatu formation. So it will cause menstrual problems.

Surgical procedures like D & C (Table No.19) have an incidence 83% in more than 2 such procedures. It is a physician induced problem, the endometrium may form defectively, or function abnormally after this procedure.

90% of the cases came after a treatment in western medicine, with hormone therapy (Table No.20). Prolonged usage of hormones may alter the normal measurements of hormones produced by the body. That may lead complications like pradara.

80% of the cases fall upon having pain at low back, 17% lower abdomen (Table No.21) dysfunctional uterine bleeding has a symptom of pelvic congestion.

There congestion can cause inflammation to the pelvic musculature and ligaments that attaches the uterus. That may lead to pain on that area especially low back and to an extend lower abdomen.

Investigations of blood, stool and urine can very well give due towards any existed marked pathological conditions. So the same was
performed in all cases which shows that 58% of cases had moderate anaemia. Rest of them were anaemic. Bleeding during menstruation can cause anaemia to women, but when, it is excessive in amount more chances are there to produce anaemia. Unfavourable environmental conditions proved to cause aplastic anaemia (Table No.22).

The endometrial pattern showed that 70% was in secretory phase. This phase is heralded by estrogen and at the same time progesterone. Inadequate or unbalance in hormone level can produce prolonged bleeding. The defects in endometrial arteriole, can also lead to this fatal condition. Abnormalities of endometrial tissues can also produce the symptoms. Environmental and catrogenic factors do influence the circulatory system and also the endocrine system. It may effect the psychological and emotional status of women which are influencing factors regarding menstruation and bleeding phenomena (Table No.23).

(Table No.24) Weakness, vertigo, nausea, vomiting body pain, breast discomfort constipation, backache were the commonest symptoms observed during menses associated with the main symptom of excessive bleeding. Among them weakness, body pain, back ache were the major symptoms among maximum number of cases. Physiological changes towards menses, psychological feelings, blood loss, can produce there kind of symptoms.

As all the cases nearly 80% (Table No.25) were fall on the prakriti vatika and in type of pradara 70% were of kapha prakriti, 26% come under pitha prakriti.

Per speculum, pervaginal examinations, uses findings gave normal results in all the cases which shows that the disease pradara, or dysfunctional
uterine bleeding is a condition devoid or dependent on any major systemic conditions. Any kind of existing systemic disease of the body can also influence the chromicity of the disease as well as course of therapy and its effectiveness. All the selected cases were so confirmed to be free from any existing pathological conditions, which can influence the disease with production of various associated symptoms.

As all the cases are educated who are mostly employed, in reproductive age group they will not be able to be get admitted for long period if once it is decided to do the therapies as Snehana, Swedana Vasthikarma etc. So it was decided to do the management with less discomfort and less difficulty to the women which can impart best result. So it was decided to administer the drugs of study orally and the course of therapy was decided to be 3 months. So the powdered drug of Asoka was given to group A for the use of one month initially, and for next month an so on. Instructions were given to prepare the Kwadha, as the other drug musalee khadiradi, kwadha was also administered in a doze of 50 ml twice daily for 3 months for group B. This group was given strict instructions, regarding the dietic habits and avoiding travel, proper rest, exposure to hot and heat, avoid hot and spicy food.

The average ages of patients are compared and no difference is found (P = 0.4983) The variation of age is also compared and a general variation of about 6 years is only observed among the patients age (P = 0.5000). Asoka Kwadha for the group A, is reasonably effective in the reproductive and perimenopausal patients and musaleekhadiradi is effective in all age groups. In the reproductive age group the ratio of cured, improved and relieved (Table No.27) ie 3:2:6 in group A and it is 10:1:1 in group B. That is
approximately 3 patients in group A and 10 in the B are cured among 12 patients are considered. In the perimenopausal age $1/3^{rd}$ is cured or improved in group A, and 45% is cured or improved in group B. Thus for all age group patients musaleekhadiradi with the instructions mentioned above is advisable to control pradara than asoka kwadha.

The effectiveness of any medication or therapy can be influenced by the general health of the person. Criteria’s as age, body built, parity blood haemoglobin level can give different results with different drugs. Once if the criteria are classified into equal sequence then the effectiveness can also be equal in all the cases. So the comparative study between such criterias and effectiveness of the two drugs were assessed.

60% of the patients overall, are belonging to poor income group and another 30% middle class. Thus pradara is common among the low income group, rural people and so medication and curing such disease is a real relief for the poor. The average income of the patients studied is only Rs.4500 with SD 3200. Thus the treatment due to musaleekhadiradi which can considerably eliminate the disease is a real solace to the middle class and poor people.

Among the employed and housewife category 90% of the patients falls, so the treatment and cure will be definitely a relief for the patients and pradara is controlled consistently (more than 85%) among this group using musaleekhadiradi and 50% using asoka kwadha. Fig. No.3 shows the comparative percentage of patients in both A & B and it is observed that the educated patients is less than 5% in both categories.
The treated patients are in the ratio 1:7 among married and unmarried women (P = 0.4496). It is clear that the curing of the disease with influence the life pattern of married women. So the 80% curing and 5% improvement among group B is definitely ensures changes among the patients applied the medicine.

70% of the women of different age group going under menarchial age group of 13-14 so it is found that age of patients is not a factor affecting the disease pradara to occur.

80% of the patients are of moderate body built so one can conclude that pradara is not due to obese or lean structure and hence the treatment is common to all categories (P = 0.4575). The more healthy the person more effective well be the therapy.

Number of pregnancy may be a factor for pradara as 95% of the married women considered in both groups are having multipara history. It is interesting to see that 1/4th is only cured using Asoka Kwadha, but 88% is cured by the use of musaleekhadiradi with restrictions. Overall patients examined shows that 40% is cured or improved by asoka kawdha and 85% is cured in Group B. Considerable cure is achieved by musaleekhadiradi among group B patients on parous and nulliparous patients (Table No.29).

Multiparous women whose organs undergo changes with pregnancy, delivery may undergo structural and functional changes which may not be made out of pelvic examinations, they will always be having other problems, related with wear and tear of the daily family problems, hardwork in bringing up children, along with untimely intake of food leading to anaemia, which may lead to persistence of abnormal symptoms during each menstrual
cycles as that of pradara. The drugs in musaleekhadiradi, may have the properties to minimize the problems and the restrictions may lead to a healthy body.

Table 30 is more explanatory about the characteristic of menstruation, the patient’s average duration is about 9, 8 days with SD 1.4 in each group. There is no significant difference seen in duration in two groups of patients but the outcome shows some kind of reduction from the exceeding levels to the normalizing by both medicines, especially musaleekhadiradi. The average decreases up to 6 days, so that both medicine are effective to control the duration, but 96% in group B is having an average of 4 days duration, so that another reduction is also possible by musaleekhadiradi kwadham. The interval of 15-20 days or more than 35 days is considered abnormal and after treatment 22% of Group A and 18% of Group B is only left in that category. About the clots, severe clot is reported in 80% with 10% mild and 10% moderate ($P = \leq 0.7985$). On Musaleekhadiradi Kwadha, and Asoka Kwadha patients all from moderate to severe clots are vanished and reaches, mild clots or vanished. 60% mild clots are reminiscent using asoka kwadha but only few patients (<3%) it is still reported mild in group B. The amount of blood and colour is also unfavourable in 90% of the patients at initial level (excessive amount bright red colour). But intake of medicine made standard coloured blood loss is controlled in 40% in group A, 90% in group B. Thus considering the duration, colour and amount, interval clot, healthy outcome were produced by musaleekhadiradi. But only 40% are cured completely using asoka kwadha.

Table 31, 32 explained the curing effects of asoka kwadha, and musaleekhadiradi on pradara affected by indoor or outdoor, pollution. Out
of 33% patients in each group of exposure to air pollution, about 29% are cured in each due to musaleekhadiradi. But it is only 9% cured in each group by asoka kwadha. Thus musaleekhadiradi is overall dominating effect in controlling outdoor pollution. In indoor pollution the wood effect is completely recovered in both cases excepting <5% patients. But on the dust, this picture is different 90% of the dust contamination effect is eliminated by musaleekhadiradi kwadha but only 10% of the dust patients are cured by asoka kwadha. In the construction material 40 of 47 are cured in B while only just half got cured in Group A. Allergens also shows high significant effect due to musaleekhadiradi with all patients baring 3 is curing in Group B. The fungal spores are effectively cured in pradara by Musaleekhadiradi (18 out of 20) and 1 out of 20 is only cured fully in asoka kwadha.

Petroleum products and hydrocarbons are key industrial substances influencing pradara. They are respectively effected 80%, 10% of the patients also another 8% seen for plastic polymers. These effects are also controlled reasonably, by musaleekhadiradi among 100 patients about 70% of the patients due to petroleum products and 90% due to hydrocarbons (9 out of 10) are cured in Group B by musaleekhadiradi. All the 7 patients of plastic polymer effect are saved from the disease in Group B, Only 1/4th are cured in Group A from the petroleum product effect, and hydrocarbon effect cured only in 2 patients out of 12. Among the 8 patients of plastic, rubber effect is cured after the medicine asoka kwadha. The happening of petroleum, hydrocarbons, plastic rubber etc. is 8:1:1 in both cases (P = 0.2368) and the curing is also in the same ratio in Group B. But in Group A this ratio is 2:1:1.
Table 34 describes various agricultural factors influencing the disease, rodenticides is most among 50% patients and herbicides in 20% and insecticides in 50% with 10% fumigants. Thus most needful control should be rodenticides, insecticide, herbicides, table 35 shows that 2/3rd of the rodenticides are cured in Group B. Similarly 80% of herbicides, 85% insecticides and 100% fumigants are controlled and cured in the musaleekhadiradi and followed by the experiment group. 1/4th of rodenticides, 1/3rd of herbicides, 1/6th of insecticides, ½ of fumigants are cured in Group A.

The common rodenticide 4 hydroxy coumarin, naphthalene groups (warfarin trade name) herbicide – methyl 3 chloro carboxylate insecticide (Acetamiprid) neonicotinoid, fungicides (triadimenol) chlorophenoxy butyle alcohol are the mostly known environmental hazards (Douglas R. Lorensen – Pensilvania Dept. of Environmental Sources). The study group mostly from rural area using ground water for their drinking purpose, is contaminated by these chemicals. A group of patients are exposed to these hazards in a major number. Instructions like avoiding the exposures like environmental hazards like this may help the patients to eliminate these hazards, drinking pure water, with the usage of medicine, may improved the liver functions, respiratory functions, and overall health of the patient.

(Table No. 35) Mycotoxins due to aspergillus and phytotoxins due to adulterations in commonly used products by the rural people like atta, and maida are equally making causes among the 100 patients of Group A and Group B. Among the cured cases in Group A and Group B wonderful results were seen in comparing A and B. 42 out of 55 (4/5) cases and 43 of 45 in mico, phytotoxins respectively are completely cured by musaleekhadiradi.
But asoka kwadha can show a poor figures of 18 out of 52 (1/3\textsuperscript{rd}), 8 out of 48 of the cured cases. The toxic effects are least efficiently treated with Group A medicines.

Addictions are influencing the disease in a larger 75% cases and 25 patient as effect of pesticides and hormones fed to animals respectively. Also coffee and tea causes some effect on producing disease among 17. The food contaminant effect both A and B are identical (P = 0.8128) (Table 16).

Among the 15 patients with influence of food, coffee all except one patient is cured and the lone patient is improved under musaleekhadiradi group. But the drinking coffee effect can not be set aside by asoka kwadha treatment as one out of 20 is only cured. The cure is almost same in hormone fed animal effect. All the 24 were cured with one improved, in B, while one out of 25 is only cured. 75% each are affected by agricultural pesticides and only 2/5 of them is cured among the pradara patients with asoka kwadha. But only two is improved and remaining 73 is cured by musaleekhadiradi administration. Thus in the efficiency of musaleekhadiradi kwadhan with asoka kwadha based on the effect of addictions, the comparison is beyond scope.

By introducing female and male hormones to the animals, it is possible to increase amount of meat, extra muscles, and fat and even some hormones increase milk production. When unhealthy patients, having less immunity who consume these products from these animals, excessive estrogen amount may cause, disorders of reproductive system. Certain chemicals feed by animals mimic testosterone (trenbolone) and estrogen (zeranol). Residue of estrogen in meat causes tumours. The strict dietetic
regime that is vegetarian, and pure drinking water, avoid unhealthy, unhygienic environments etc. and the medicine musaleekhadiradi kwadha reduces the liver toxicity and enhances the medicinal action giving good results.

Table 37 explain the effect of food contaminants leading to pradara among two groups. Broiled meat is prominent in 50% of the patients followed by 25% food colour 15% due to sweeteners and 10% preservatives ($P = \geq 0.9232$). Out of the 50 broiled meat affecting patients 38 (75%) cure is seen in group B, which is 13 out of 48 (25%) only in A, in the food colour among the 25% only 4 is cured in Group A. All 25% with only rest of two is cured in Group B. Similarly sweeteners and preservatives are completely cured in Group B while $\frac{1}{2}$ is only cured in Group A.

The broadly used sweeteners are sodium saccharin and aspartame, which for prolonged use causes inborn errors in metabolism (Lacet, 2007). The artificial preservatives are calcium propionate, sodium nitrate, formaldehyde, ethanol etc. Metanil yellow, Rhodomin B., lead chromate are the food colours now widely used. These chemicals are carcinogenic in due course of time. By producing systemic diseases, the patient exposed to them will have less immunity and poor health (Umatiwari, 2004).

All the hundred patients had undergone D & C at least once. Most of the patients in both groups ie 85% required it more than twice. The ratio of D & C 1, 2, >2 is 1:2:17 in both groups. The outcomes of D & C undergone patients with medicine asoka kwadha and musaleekhadiradi is comparable. Out of the 5 patients each with one D & C only one is cured in Group A, 3 is cured in Group B. About 10% patients are having 2 D & C’s in both 50%
each is cured in both. More than 2 D & C’s the success rate of Group A is far behind of Group B. Only 20 out of 85 is cured in Group A while 75 out of 85 are cured in Group B. The patients with more than 2 D & C should take musaleekhadiradi in the case of pradara comparing asoka kwadha.

A very common treatment among pradara patients in hormone therapy which is even prolonged to 3 to 5 years. Taking a class of patients with short span of 3 months therapy only 1% are found and their outcomes are also good after asoka kwadha or musaleekhadiradi. Considering patients within 2 years of therapy, 10% are found in both group and 50% are cured in both. The improvement is happened due to musaleekhadiradi in the remaining 50% but it is not that much successful in Group A. About 90% had undergone more than 3 years hormone therapy, and results in asoka kwadha on musaleekhadiradi kwadha are distinct only 20% is cured and another 20% is improved in Group A. But about 80% are cured and 5% are improved in group B. Thus for the prolonged hormone therapy patient should consider to take musaleekhadiradi kwadha with the regime, as a treatment with proper monitoring to reduce pradara complications.

One patient with site of pain at the thigh and 80% has it at low back. Rest is on at lower abdomen. Thus the ratio of patients with site of pain, abdomen and back is 1:4 and is satisfied in both cases identically \((P = \geq 0.5820)\). Among the 99 patients, 80 had back pain and the outcome also shows that curing is irrespective of site of pain in both medicine.

Table 40, the average Hb level among both group are 10.32 with SD of 1.05. There is no significant difference in Hb level for both groups. Most of the patient 60% has Hb between 10-11%. After the treatment of taking
asoka kwadha, and musaleekhadiradi for a reasonable 3 months the Hb level is considerably improved to 10.95 on an average. The SD is little more in Group A, implies that there is high fluctuation with Hb level among the patients of Group A even after the treatment. But generally there is an increase of 6% Hb in both groups.

Taking the histopathological reports with various types of endometrium, proliferative is found in 20 patients of Group A with disorders of 2, and cystic hyperplasia 3. In Group B it is 18, 1, 3 respectively.

In associated symptoms after the treatment few are reported with the symptoms using asoka kwadha. Only 1 person with nausea from the 11 patients is unsettled after the intake of musaleekhadiradi kwadha. But in Group A with asoka kwadha about 90% are saved in weakness and backache and 100% in constipation and headache but only 60% in body pain. Associated symptoms can be eliminated with the help of musaleekhadiradi kwadha and still it is reminiscent in some specific symptoms in Group A.

Table 42 and 43, Ayurvedically the patients are classified according to prakriti vata, pita, kapha and Group A and Group B. This classification is 82% vata, 8% pitha, and 10% kapha (P = 0.3712). In the case of 80 vata patients in Group A, 20 is only cured (1/4th) and another 13 is improved about 80% of the patient are relieved by asoka kwadha, on vata patients. Out of 85, 78 cured, 5 are improved, rest 2 required further treatment in Group B. Similarly among 8% of pitha one is cured with 2 improved, 4 relieved in Group A and almost same in Group B. But on the kapha category about 1/3rd is cured and half of them are relieved in Group A, but
75% (6 out of 8) are cured in Group B. Thus musaleekhadiradi khadha is very effective treatment among vata and kapha patients for a total cure of cases of pradara.

Based on the type of pradara it is classified like, kapha, pita and vata in a ratio 14:5:1 (P = 0.08). Among the patients kapha are 73 in Group A. Only 26 is cured (1/3rd), due to asoka kwadha, but in Group B 65 of the 68 patients are reasonably cured due to musaleekhadiradi kwadha. The result of pita is also not encouraging as out of 25 patients of pita none is cured by asoka kwadha. Only 7 is improved but in musaleekhadiradi kwadham group 50% are cured and another 25% are improved. About the vata pradara patients in Group A, all the two are not cured or improved but in Group B all the 5 are cured, thus among the 3 types of patients kapha, pita, vata pradaram Group B medicine is extremely powerful to control or cure in almost all patients only pita is left 25% patient left away from good results.

The drug asoka having properties as kashaya thiktha rasa, laghu rooksha guna, seetha veerya, katu vipaka in majority help in relieving associated symptoms and bleeding, by removing obstruction in the pathway of apanavayu which would have caused pradara. Being raktha sthambhana property it also controlled bleeding which is the main problem of pradara. It helped in reducing the level of prostaglandins which helped in reducing associated symptoms.

The drug musaleekhadiradi having the properties of madhura rasa, guruguna, seetha veerya, katu madhura vipakom and found to have action on uterus as gasbhasthapanam, poshaka, etc. The drug being tridoshaharam it helps in alleviating the vata, pita and kapha. Being raktha sthambana, there
may help in controlling bleeding. So the combined effect, helped in relieving the symptoms of raktha pradara, inflammation, congestion, normalizing doshas mainly vata, pita being effective in rakthapradana.

While comparing the effectiveness of two drugs on the basis of studies, the drug musaleekhadiradi with restriction is mode of life and dietic habits, environmental hazards gives encouraging results incurring the disease with reducing the amount of bleeding, to increase general health of the patient, in a permanent manner than in asoka kwadha which give a moderate result.