



Review Article

An Ayurvedic Approach on Pelvic Inflammatory Disease (PID) W.S.R Paripluta Yonivyapda- A Review

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Abstract

Pelvic inflammatory disease (PID) is a spectrum of infection and inflammation of upper female genital tract organs. It has polymicrobial etiology. Primary organisms are sexually transmitted whereas secondary organisms are normally present in the vagina. PID is a major problem to reproductive health of young women. In 85 per cent of the cases it is due to spontaneous exposure in sexually active women whereas in 15 per cent it is followed by gynecological procedures. Patient may present with varying degrees of symptoms. Clinical features include lower abdominal and pelvic pain, dyspareunia, fever, headache, nausea, vomiting, unusual local discharges, etc. Its immediate complications can be peritonitis and septicemia and may eventually lead to dyspareunia, pelvic adhesions, perihepatitis, chronic pelvic pain, ill-health, infertility and increased risk of ectopic pregnancy. Diagnosis is mostly based on clinical assessment and empiric antibiotic therapy is suggested for its management. Public education; screening, tracing and treating the partner/partners and follow-up, re-assessment and good counseling are essential steps of treatment. *Ayurveda* classical and text books, textbooks on modern gynaecology, online websites and published research papers were studied to understand PID in context of Ayurveda, to explore various treatment modalities of both domains and to know the *Kriyakala* (stage of the disease) in which *Ayurveda* can

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have impactful interventions. *Ayurveda* treatment modalities can be incorporated with modern medical practices for gratifying result in multitude of manifestations of the disease. Substantial studies are yet in need to yoke together the knowledge of *Ayurveda* and modern science to develop rewarding integrated approach.

Keywords: *Ayurveda*, *Paripluta Yonivyapadaa* , Pelvic Inflammatory Disease, PID, *Uttarbasti*.

INTRODUCTION:

Pelvic inflammatory disease (PID) is a spectrum of infection and inflammation of upper genital tract organs, i.e. endometrium, fallopian tubes, ovaries and other surrounding structures viz. pelvic peritoneum which is attributed to ascend of microorganisms from cervico-vaginal canal to the contiguous pelvic structures.^[1] PID is a major problem to the reproductive health of young women. In 85 per cent of the cases it is due to spontaneous exposure in sexually active women whereas in 15 per cent it is followed by gynecological procedures like endometrial biopsy, uterine curettage, IUD insertion, hysterosalpingography etc. ^[2] It usually has a polymicrobial etiology. Primary organisms like *Chlamydia trachomatis* (30%), *Neisseria gonorrhoeae* (30%), *Mycoplasma hominis* (10%), etc. are sexually transmitted. Aerobic organisms like Non-hemolytic *Streptococcus*, *Escherichia coli*, *B-Streptococcus*, *Staphylococcus* etc and Anaerobic viz. *Bacteroides fragilis/bivis*, *Peptostreptococcus*, *Peptococcus*, etc. which are normally present in the vagina are almost always associated sooner or later as secondary organisms.^[3] Other organisms associated at times are *Trichomons vaginalis*, *Gardnerella vaginalis*, *Cytomegalo virus*, *Human Influenza virus*, *Human Immunodeficiency virus*,

Herpes simplex virus-II, *Mycobacterim tuberculosis*, *Actinomyces species* etc.^[4] Ascend of the organisms can be attributed to anatomical continuity and contiguity of pelvic organs; reflux of menstrual blood along with the organisms; parametrial dissemination; spread through blood and lymphatics; peritoneal spread and via vectors like sperm, *Trichomonas* etc.^[5] A typical high-risk patient in acquisition of these microbes is a menstruating female with multiple sex partners, not using contraception and coming from Sexually Transmitted Infections (STIs) prevalent zone. Other risk factors for PID include previous history of STIs, sexual abuse, gynecological procedures and young age owing to low hormonal defense, wider cervical ectopy and risk taking behavior.^[6] Patients can have minimal to toxic signs and symptoms. Diagnosis is mostly based on clinical assessment.^[7] Owing to its grave complications ranging from immediate septicemia to chronic pain and infertility, Centers for Disease Control and Prevention (CDC) has urged for lowering the threshold for diagnosis followed by empirical treatment based on broad spectrum antibiotic therapy.^[8] However, hematological and serological studies; Gram stains, cultures and DNA probing; histopathological study; sonographic and radiological imaging; laparoscopy and laparotomy can be used in case of ambiguous clinical presentations.^[9]

PID can be understood as one of the *Yonivyapada* (disease of female genital tract) *Paripluta* based on etiology, features and complications of the disease mentioned by different *Ayurveda* scholars. ^[10] Treatment principle and symptomatic treatment modalities are discussed thoroughly in *Ayurveda* classical and text books.

AIMS AND OBJECTIVES:

- To explore the concept of PID with reference to *Paripluta Yonivyapada* from *Ayurveda* classics.
- To explore the treatment protocols explained in modern and *Ayurveda* science.
- To know the *Kriyakala* (stage of the disease) in which *Ayurveda* interventions can be impactful and to look for integrated approach.

MATERIALS AND METHODS:

This article has been constructed from information collected from classical and text books on *Ayurveda* and modern gynecology, online websites of the concerned topic, published works and research papers. Descriptive analysis of the gathered information was done to establish correlation between PID and *Paripluta* and possible approaches for integrated management of the disease has been explored.

REVIEW OF LITERATURE:

Pathogenesis and Sequelae:

The pathological process gets initiated primarily in the endosalpinx which is almost always bilateral usually following menses due to the loss of genital defense. The infection cause gross destruction of epithelial cells, cilia and microvilli. Depending upon the virulence of the organisms, the exudate hence produced may be watery or purulent resulting in hydrosalpinx or pyosalpinx respectively. The resulting scarring and adhesions may either close one of the fimbrial or uterine ostium or both. At times, the exudate gets poured through abdominal ostium causing pelvic peritonitis, peri-hepatitis (Fitz-Hugh-Curtis syndrome)

and pelvic abscess or tubo-ovarian abscess. ^[11]

The immediate complications of PID can be pelvic or generalized peritonitis and septicemia producing arthritis or myocarditis. Eventually, untreated PID can lead to dyspareunia, pelvic adhesions, perihepatitis, chronic pelvic pain and ill-health. It increases the risk of ectopic pregnancy by six to ten folds. Infertility rate is 12 per cent, after two episodes increases to 25 per cent and after three raises to 50 percent. It is due to tubal damage or tubo-ovarian mass. ^[12]

Clinical Features:

Patient of PID may be minimally symptomatic or may present with toxic symptoms depending upon severity of infection. The general signs and symptoms include bilateral, dull and constant lower abdominal and pelvic pain, dyspareunia, fever, headache, lassitude, nausea, vomiting and right hypochondriac pain in concomitant perihepatitis. Sometimes urethral meatus or opening of Bartholian ducts is found congested through which pus escapes on pressure. Thickening or mass can be felt through fornices in bimanual examination. ^[13] Abnormal vaginal discharge (in 75% of cases), vaginal bleeding often post-coital (in 40% of cases) and abnormal uterine bleeding (in one third population) is commonly seen. ^[14]

Clinical Diagnostic Criteria of PID (CDC-2006): ^[15]

Minimal Criteria	Additional Criteria	Definitive Criteria
<ul style="list-style-type: none">• Lower abdominal tenderness• Adnexal tenderness• Cervical motion tenderness	<ul style="list-style-type: none">• Oral temperature >38.3°C• Mucopurulent cervical or vaginal discharge• Selected laboratory test (eg. <i>N.gonorrhoeae</i>, <i>Chlamydia</i>)• Raised CRP and/or ESR	<ul style="list-style-type: none">• Histopathologic evidence of endometritis on biopsy• Imaging study (Transvaginal sonography/MRI) evidence of thickened fluid filled tubes with or without tubo-ovarian complex.• Laparoscopic evidence of PID

Differential Diagnosis:

The differential diagnosis of PID includes appendicitis, cervicitis, Urinary Tract Infection (UTI), endometriosis, ovarian torsion, interstitial cystitis, adnexal tumors, ectopic pregnancy, diverticulitis, etc. ^[16]

Investigations:

Although empiric treatment is suggested on the basis of clinical diagnosis, the ambiguous presentation that mimics with other surgical and gynecological emergencies are needed to be assessed meticulously. Hematological examinations, basically elevated WBC count; raised ESR beyond 40mm/h and elevated CRP level above 60mg/l is commonly seen in PID. Syphilis, HIV and Hepatitis should be looked for via serological examination in both the partners. High vaginal, endo-cervical and urethral swabs are taken for DNA probing and Gram stain and culture for aerobic and anaerobic organisms. Vaginal secretions treated with saline and potassium hydroxide for examination of leucorrhea (>10WBC/high power field, >1 WBC/epithelial cell, clue cells and *Trichomonas*) is suggestive of PID though with low specificity. In endo-cervical and urethral specimen *Gonorrhea*,

Chlamydia etc. are looked for. ^[17]

Laparoscopy is gold standard criterion for diagnosis of PID. Being not feasible for all the case, it is reserved only in those cases in which differential diagnosis include grave surgical and gynecological emergencies. Non-responding pelvic mass is another condition which needs laparoscopic clarification. Laparoscopy can somewhat detect severity of PID. Mild cases consist of edematous, erythematous and mobile fallopian tubes with no purulent exudates. Not-freely mobile tubes with purulent exudates from fimbrial ends suggest moderate PID. In severe cases pyosalpinx, inflammatory complex and abscess may be visible during laparoscopy. Tubo-ovarian abscess, hepatic abscess, adhesion that may mimic violin string under laparoscopic examination along with other corresponding findings is suggestive for PID. It also helps to obtain specimens for definitive culture and histologic studies and to rule out ectopic pregnancy. ^[18]

Pelvic ultrasonography scanning is useful in evaluating disorders in differential diagnosis, including ectopic pregnancy, hemorrhagic ovarian cyst, ovarian torsion, endometrioma, appendicitis

etc. Endometritis can be taken in consideration if ill-defined uterus with central endometrial cavity echo thickening and heterogeneity is seen under USG. Sometimes, ill-defined uterus can be due to endometrial hyperplasia, carcinoma, polyp etc. Hydrosalpinx gets illustrated as fluid filled tube where as in pyosalpinx thickened tube filled with debris is seen. Oophritis is generally depicted as enlarged ovaries with obscure margin which is often adherent to uterus with or without fluid in pouch of Douglas. Complex adnexal mass with thickened walls and central fluid suggests tubo-ovarian abscess (TOA). Such mass is also visible in case of endometrioma, hemorrhagic cyst, ovarian tumors, ectopic pregnancy and collected abscess from adjacent structures. Doppler finding of inflammation and hydrosalpinx is found very suggestive. ^[19]

Transvaginal ultrasonography is superior to transabdominal ultrasonography for diagnosing PID as well as visualizing endometrial abnormalities and pelvic masses. Suggestive findings are thickened (>5mm) fluid-filled fallopian tube, thickened cilia, indistinct endometrial boarder, ovaries with multiple small cysts, free fluid in pouch of Douglas and adnexal mass. ^[20]

CT and MRI though not used frequently owing to their risk of exposure to radiation and high-cost; findings of hydrosalpinx, pyosalpinx, endometritis, TOA; oophritis can be helpful in diagnosing the case. ^[21]

Culdocentesis is another diagnostic procedure that can be performed rapidly in emergency setting. If WBC count in aspirated fluid from cul-de-sac exceeds 30,000 per ml, it may suggest acute PID. Bacterial culture from the fluid is not much helpful as it is likely to have vaginal contamination.

^[22]A yield of more than 2 ml of non-clotting blood is general indication of ectopic pregnancy. ^[23]

Endometrial Biopsy is helpful in histopathologic diagnosis of endometritis, a condition uniformly associated with salpingitis. Endometrial biopsy has approximately 90 per cent sensitivity and 90 per cent specificity. Specimens for culture also may be obtained during the procedure but one has to be careful as it is likely to get contaminated from vaginal flora. Urinalysis can be helpful to rule out UTI. Pregnancy test should always be performed to rule out ectopic pregnancy. ^[24] Also, pregnancy directly influences selection of antibiotics regimen and consideration of the patient for admission. ^[25]

Management:

Treatment objective should be to control infection, to prevent infertility or other sequelae and to prevent re-infection. ^[26] Public education about STIs, safe sex, use of contraceptives, avoidance of multiple partners; routine screening or examination in high risk population; tracing, investigating and treating the partner/partners are essential steps to prevent the disease and to avoid reinfection. ^[27] Use of oral contraceptives and tubal sterilization has appeared to decrease risk of symptomatic PID and salpingitis respectively. ^[28] Beside proper rest and analgesics, antibiotics are to be prescribed empirically even before microbiological report is available. Since the infection is poly-microbial in nature, combination of broad-spectrum antibiotics should be prescribed. Most patients with PID can be managed as out-patients. However, indications for hospitalization according to CDC include uncertain diagnosis, suspected tubo-ovarian abscess, co-existing pregnancy, intolerance to oral antibiotics, patient known to

be HIV infected or immune compromised, severe illness and failure to improve with out-patient therapy in 48 hours.^[29] The CDC has recommended antibiotic regimens for outpatient and inpatient management of PID as enlisted below in tabulated form.^[30]

Antibiotic Therapy for Outdoor Patients:

Regimen A	Regimen B
<ul style="list-style-type: none"> • Ceftriaxone 250 mg Intra Muscular(IM) single dose and • Doxycycline 100 mg orally twice daily for 14 days. • Metronidazole 500 mg twice a day for 14 day (if suspected vaginitis or patient has underwent gynecological instrumentation preceding 2-3weeks.) 	<ul style="list-style-type: none"> • Cefoxitin 2g IM single dose with Probenecid 1g 1 dose orally or another single-dose parenteral third-generation Cephalosporin (eg, Ceftizoxime or Cefotaxime) • Doxycycline 100 mg twice a day orally for 14 days. • Metronidazole 500 mg twice a day for 14 days (in vaginitis or history of gynecological instrumentation 2-3 weeks.)

Antibiotic Therapy for Indoor Patients:

Regimen A	Regimen B
<ul style="list-style-type: none"> • Cefoxitin 2 g Intra venously(IV) every 6 hours or Cefotetan 2 g IV every 12 hours combined with • Doxycycline 100 mg orally or IV 12 hours which is continued for next 24 hours after the patient improves clinically. Then after doxycycline 100 mg is given orally twice a day for a total of 14 days. 	<ul style="list-style-type: none"> • Clindamycin 900 mg IV every 8 hours plus Gentamicin IV in a loading dose of 2 mg/kg followed by maintenance dose of 1.5 mg/kg 8 hourly. • Doxycycline 100 mg twice daily should be continued for a total of 14 days and IV may be discontinued 24 hours after patient improves clinically. If tubo-ovarian abscess is present, clindamycin or metronidazole may be used with doxycycline for more effective anaerobic coverage.
Alternative Regimen	Ampicillin-sulbactam 3 g IV 6 hourly and Doxycycline 100 mg orally or IV every 12 hours.

Surgical Management:

Surgical management is indicated in generalized peritonitis, pelvic abscess or tubo-ovarian abscess not responding to antimicrobial therapy.^[31] Laparoscopy is helpful for drainage of abscess, irrigation in rupture of abscess, adhesionolysis, unilateral adnexectomy, salpingo-oophorectomy, etc. Laparotomy may be needed for management of ruptured abscess and for hysterectomy.^[32]

Treatment of Partner with Stat Dose: [33]

- Cefixime 400mg, Per Oral (PO)
- Tinidazole 2g, PO
- Azithromycin 1g, PO
- Fluconazole 150 mg, PO

Follow-up:

Repeat smear and cultures from discharges should be done after seven days of full course of treatment. The case is declared cured if three consecutive reports after each menstrual period are found negative. Sexual abstinence or use of condom is suggested till both the partners are successfully treated. Unequivocal proof of successful treatment after salpingitis is intrauterine pregnancy. [34]

Pitfalls:

Diagnosis is primarily based on historical and clinical findings hence it is subjective and imprecise. Non recognition of disease on part of patients and lack of easy access of diagnostics or laboratory facilities are other hindrance in diagnosis and treating patients. Very often, asymptomatic and uncomplicated tend to be under diagnosed and hence under treated. Occasionally chronic pain gets disguised as cyclic pain. On the other hand, lowering the threshold of diagnosis may lead to over-treatment or mis-treatment of patients. [35]

Understanding PID via Ayurveda Perspective:

Paripluta Yonivyapada shows a close convergence to PID based on *Hetu* (etiology), *Dosha* (basic humors of body) and *Rupa* (signs and symptoms) mentioned by different scholars tabulated as below: [36],

[37], [38], [39]

Samhita	Hetu	Vitiated Dosha	Rupa
Charaka	<i>Paitika Aahara-Bihara</i> (diet and habits); <i>Vega dharana</i> (withholding biological urges) and <i>Maithuna</i> (Coitus)	<i>Vata, Pitta</i>	<i>Sothyukta Yoni</i> (inflammation), <i>Sparsh-Asayah Yoni</i> (tenderness); <i>Nila-Pita Asrik</i> (Abnormal menstrual discharges); <i>Shroni-Vankshan-Prishtha Vedana</i> (pelvic & back ache); <i>Jwara</i> (fever)
Sushruta		<i>Vata</i>	<i>Gramyadharma Vedana</i> (Dyspareunia) & <i>Shoola</i> (pain and aches)
Ashtanga Sangraha/ Ashtanga Hridaya	<i>Paitika Aahara, Bihara; Vega Dharana</i> and <i>Maithuna</i>	<i>Vata, Pitta</i>	<i>Sothyukta Yoni, Sparsh Asayah, Nila-Pita Asrik, Basti-Kukshi Gurutwa</i> (pelvic congestion), <i>Atisar</i> (diarrhea), <i>Arochak</i> (anorexia), <i>Shroni-Vankshan Ruja</i> (pelvic ache), <i>Jwara</i>
Madhav Nidana, Bhavprakash and Yoga Ratnakara opine as <i>Sushruta</i>			
Madhukosha	<i>Pari</i> (all around the pelvic structures mostly <i>Yoni</i>) and <i>Pluta</i> (vitiated by <i>Vata</i>) which means presence of disseminated pain all over <i>Yoni</i> .		

While describing complications of *Yonivyapada*, both the *Vagbhata* have mentioned infertility, chronic pelvic pain and menstrual disorders. [40]

Treatment Principle:

As described in *Samhita* (classical texts), no *Yonivyapada* is devoid of *Vata* involvement.^[41] Thus basically *Vata* along with *Pitta* which is also involved in *Paripluta Yonivyapada* should be normalized to treat the case. *Sarwangik* (whole body) or *Sthanik* (local) *Snehana* (oleation), *Swedana* (sudation) followed by *Mridu* (mild) *Panchakarma* should be done initially.^[42] *Abhyanga* (massage), *Parisheka* (medicated shower), *Tarpana* (satiation), *Pichu* (gauge soaked in ghee/oil), *Pralepa* (anointment), *Uttarbasti*, etc. are other local procedures to be done in accordance to disease condition.^[43] *Palash Niruh Basti*, *Guduchyadi Rasayan Basti*, *Shatavaryadi Anuwasan Basti* etc. are usually recommended *Basti* (medicated enema) regimens. *Pushyanug Churna*, *Dashmool Churna*; *Pippali Churna*, *Loha Bhasma* and *Pathya Churna* with honey can be used as *Abhyantara Ausadhi* (medicine for internal use). *Sneha Kalpa* (fat-based preparations) like *Phala Sarpi*, *Laghupahala Sarpi*, *Vrihata Shatavari Ghrita*, *Bala Taila*, *Mishraka Sneha* can also be prescribed for the case. *Nyagrodhadi Kwatha*, *Maharasnadi Kwatha*, *Abhayarista* etc. are other formulations those are described in treatment principle of the disease.^[44] Side-by-side *Pitta Samaka Chikitsa* (*Pitta* pacifying treatments) as described for *Pittaj Yonivyapada* like *Uttarbasti* with *Madhuka Siddha Ksheera* (medicated cow's milk), *Panchavalkala Kalka Dharana* and internal use of *Jeevanyadi Gana Ksheersarpi* and *Phala Ghrita* can be used in acute condition of the disease.^[45] *Pichu Dharana* (oleated/medicated vaginal tamponing) with *Panchavalkaladi Sneha* is specifically indicated for *Paripluta Yonivyapada*.^[46]

Symptomatic Management:

Along with the treatment modalities, symptomatic treatment regimens are also described in various sections by classics. In *Sparsha-Asayaha Yoni* (tenderness) *Kumbhi Sweda* with use of *Anup-Audak Mamsa* followed by *Teela Taila* (Sesame oil) *Pichu Dharana* can be done. Also, *Swedan* and *Basti* with *Sukumara Taila*, *Bala Taila* and *Shirisha Taila* are usually recommended. *Dwi-Haridra* or *Brihati Phala* can also be used for *Yoni Poorana* and *Yoni Dhoopana* (Fumigation).^[47] *Yoni-Shoola* can be managed by *Anuwasan Basti* (medicated oil based enema) and *Asthapan Basti* (medicated decoction based enema) followed by *UttarBasti* with *Sukumara Taila*, *Bala Taila*, *Shirisha Taila* etc. Irrigation with *Guduchi-Triphala-Danti Kwath* and *Saindhavadi Taila* or *Dhatakyadi Taila Pichu Dharana* is said to be beneficial. Internal use of *Hingwadi Churna*, *Shatavari Taila*, etc, are also recommended.^[48]

In *Yoni-Daurgandhya* (Foul odor of vagina), *Tuwaraka* can be used for *Kalka Dharana* (Medicated paste douching) or *Yoni Prakshalan* (vaginal wash). *Yoni-Awachurna* (insufflation) of *Panchakashaya* and *Palaash-Dhataki-Lajjalu-Jambu-Sarja Rasa* is also beneficial as the composition is *Stambhak* (absorbent) and *Daurgandhyanasaka* (removing foul odor).^[49] In *Puya-Srava* (Purulent vaginal discharges), *Yoni Prakshalan* or *Pinda Dharan* (medicated intravaginal douche) of *Nimbapatradi Dravya* and *Gomutra* (cow's urine) with *Lavana* (salt) is recommended. Internal use of *Sugandhi Dravya* (aromatic drugs) is considered helpful. *Ghrit-Abhyanga* (massage with ghee) of *Yoni* followed by *Chandan Jala Pichu Dharan* is beneficial in *Yoni-Paka* (suppuration).^[40] In late sequelae like chronic pain and infertility due to tubal blockage

Yoni Pichu and *UttarBasti* are found to be beneficial. ^[51]

Pathya (Suited Diets and Habits):

Pathya for *Yonivyapada* in general is *Vata-Pitta Samak Ahar-Vihar*. *Ksheer-Sarpi* (milk with ghee), *Mamsa ras* (meat soup), *Lashun kalpa* (garlic paste) and *Yawanna bhojana* are considered beneficial for *Yonivyapadas*. *Sura-Asav-Arista-Sidhu* (fermented herbal drinks) are also recommended as per involvement of *Dosha*. ^[52]

RESULT AND DISCUSSION:

Charaka relates 'coitus' to the disease etiology and mentions clinical features resembling to acute inflammatory stage attributable to spontaneous exposure to STIs viz. *Gonococci*, *Chlamydia* etc. Clinical features like pelvic pain, tenderness, fever and unusual menstrual discharges etc. mentioned by *Charaka* and both *Vagbhata* suffice minimal criteria for PID diagnosis as per CDC guidelines. Other features like diarrhea, anorexia, lower backache, pelvic congestions are presentations of PID as well. Dyspareunia mentioned in *Sushruta Samhita*, *Madhav Nidana*, and *Yoga Ratnakara* can be due to late sequel of PID viz. adnexal masses, adhesions etc. Etymology of word *Paripluta* described in *Madhukosa* as disseminated pain all over pelvic region and genital tract is inferable to chronicity of disease leading to chronic inflammation and ill health. Complications of *Yonivyapada* i.e. infertility, chronic pelvic pain and menstrual disorders described by both *Vagbhata* are true for PID as well. Cumulatively, it can be perceived that all the opinions of different classics reciprocate to different stages of one and the same disease i.e. PID which shows plausible resemblance to *Paripluta Yonivyapadaa*.

Treatment modalities aimed exclusively for *Paripluta Yonivyapada* are not so adequately mentioned in classical references. Considering the vitiated *Pitta* as the major culprit and rule-of-thumb that *Vata* is always involved in *Samprapti* (pathogenesis) of all the *Yonivyapada*, our approach should principally be oriented to balance vitiated *Vata* and *Pitta*. For this, the *Pathya* and treatment principles advised for *Vataja* and *Pittaja Yonivyapadaa* can be followed. For systemic and symptomatic management of the disease, various modalities of *Shodhana* (purificatory measures), *Samana* (pacificatory measures) and *Sthanik chikitsa* (local procedures) suggested in *Ayurveda* classical and text books can be adopted. *Snehana*, *Swedana*, *Abhyanga*, *Parisechana*, *Asthapan Basti* and *Anuwasana Basti* normalize *Vata* and hence subsides *Vataja* symptoms like pain, tenderness, lassitude and dyspareunia. *Yoni Pichu* has shown promising results in pain, tenderness and dyspareunia in patients of PID. ^[53] Intrauterine *Uttarbasti* is found to be effective in infertility related to tubal blockage in late sequel of PID. *Yoni Prakshalana*, *Yoni Poorna*, *Yoni Dhoopana* and *Yoni Awachurnana* can be useful in combatting local infection and inflammation. *Panchavalka Kwatha* possesses properties like *Shothhara* (anti-inflammatory), *Krimighana* (anti-microbial) and *Stambhana* (absorbent). ^[54] *Yoni Prakshalan* with this decoction helps in alleviating symptoms like inflammation, congestion, suppuration and unusual discharges in PID. ^[55]

CONCLUSION:

A thorough review on etiology, clinical features, complications, diagnostic methods and management were done from the perspective of both *Ayurveda* classics and modern medical science. Ample of treatment modalities were explored

from both the domains. It can be understood that a case of PID which has evident signs, symptoms and investigation reports suggesting infection and inflammation should be managed with judicious use of broad spectrum antibiotics promptly to prevent infection and inflammatory cascade tramping into dire complications. Public education; screening, tracing and treating the partner/partners and follow-up, re-assessment and good counseling are crucial steps in achieving success in management of PID. Thoughtful use of diagnostic tools and techniques to avoid under-treatment and over-treatment is yet another vital need. Internal and external use of *Ayurveda* formulations and treatment modalities can be beneficial in presentations like local pain, tenderness, dyspareunia and unusual vaginal discharges. *Basti*, *Yoni Pichu* and intrauterine *Uttarbasti* can be done in chronic pelvic pain and infertility of tubal origin.

PID and its complications are still a huge challenge in modern medicine. Combatting it altogether with use of a single approach is less advantageous. Treatment modalities recommended by *Ayurveda* classics can be incorporated with contemporary medical practices to yield gratifying result in multitude of manifestations of the disease. Substantial studies are yet in need to yoke together the knowledge of *Ayurveda* and modern science for development of rewarding integrated approach in successful management of PID and its complications.

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