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Review Article

CRITICAL ANALYSIS OF *JATAHARINIES* WSR TO ANTIPHOSPHOLIPID ANTIBODY SYNDROME

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ABSTRACT

Acharya Kashyapa in *Revatikalpa adhyaya* explained about the *Jataharinies*, as a group of demons who has divine vision, attack women to destroy or to produce serious problems of menstrual cycle, recurrent abortions, still birth, intrauterine fetal death, neonatal deaths or severe disorders which decreases the life span of the fetus. As recurrent miscarriage, intrauterine death of an infant or death at birth has always been a devastating experience for the mother and of concern in clinical practice. All these mortality remains a challenge in the care of pregnant women worldwide, particularly for those who had history of adverse outcome in previous pregnancies (BOH). Antiphospholipid antibody syndrome (Hughes syndrome) is an autoimmune, hypercoagulable state caused by antiphospholipid antibodies. Pregnancy related complications are miscarriage, still birth, preterm delivery, IUD etc. This is one of the few treatable causes of pregnancy loss, and successful pregnancy rates of 70% or more can be achieved with appropriate treatment. Description of *Jataharinies* resemble with APLA, hence critical analysis will help to emphasize on management of *Jataharinies* by Ayurvedic treatment principles.

KEYWORDS: *Jataharinies,* Anti-phospholipid antibody syndrome, BOH.

INTRODUCTION

Pregnancy is unique, exciting and joyous time in woman's life as it highlights woman's amazing creative power. Many of auto immune diseases have predisposition for woman in their child bearing age[1]. With the exception of pregnancy with rheumatoid arthritis auto immune diseases are associated with increased risk of adverse pregnancy outcome. Antiphospholipid antibody syndrome (APLA Syndrome) is an autoimmune, hyper coagulable state caused by Antiphospholipid antibodies. Pregnancy related complications are such as miscarriage, stillbirth, Intra I.U.D (Intra uterine death) etc. It is one of the few treatable causes of pregnancy loss and successful pregnancy rates of 70% or more can be achieved with appropriate treatment.

In our classics *Kasyapa Samhita, Kalpasthanam,* chapter-6 *"Revatikalpadhyaya*" it has been mentioned that due to misdeeds of pregnant mother and father, "*Jataharinies*" kill the mother and fetus[2]. She causes loss of progeny, loss of longevity of children due to one's own misdeeds. The *Jataharinies*, means a group of demons who have divine vision, attack women to destroy or to produce serious problems of menstrual cycle, recurrent abortions, still birth, intra uterine fetal death, neonatal deaths or severe disorders which decreases the life span of the fetus.

Incidence[3]- It is 15-17% in European and American whites. 1-2% in India. The incidence of Rh- negativity at Safdarjung hospital is 7%. 15 percent of more than 1000 women with recurrent pregnancy loss had recognized autoimmune factors. [Kutteh and Pasquarette (1995)]. The incidence of APLA in general obstetrical population is about 5%.

Review of *Jataharini*

Causes and effect of *Jataharinies* Affliction

According to *Kasyapa Samhita* causes of *Jataharini* attack can be summarized as[4,5,6,7]

- *Adharma*
- *Mithyahara-Vihara* or *Dosha Prakopaka nidanas* either male or female partners
- Susceptible stages are menstruating woman, pregnant woman, puerperal woman and the lady who lives in Hut.

These women are likely to get afflicted by *Jataharini* which can be observed by-

1. Destruction of Menstruation
2. Destruction of Fetus
3. Stillbirth
4. I.U.D

Types of *Jataharinies*[8]- On the basis of prognosis these are of three types

A) *Sadhya* (curable)

B) *Yapya* (easily relapsable)

C) *Asadhya* (Incurable)

A) *Sadhya Jataharinies*- 11 in number

1. *Shushka revati*
2. *Katmabhara*
3. *Pushpaghni*
4. *Vikuta*
5. *Parisruta*
6. *Andaghni*
7. *Durdhara*
8. *Kalaratri*
9. *Mohini*
10. *Stambhani*
11. *Kroshana*

B) *Yapya Jataharinies* - 16 in number

1. *Nakini*
2. *Pishachi*
3. *Yakshi*
4. *Aasuri*
5. *Kali*
6. *Varuni*
7. *Shashti*
8. *Bhiruka*
9. *Yamya*
10. *Matangi*
11. *Bhadrakali*
12. *Raudri*
13. *Vardhika*
14. *Chandika*
15. *Kapalamalini*
16. *Pilipichchika*

C) *Asadhya Jataharinies*- 8 in number

1. *Vashya*
2. *Kulkshayakari*
3. *Punyajani*
4. *Paurushadini*
5. *Samdanshi*
6. *Karkotaki*
7. *Indravadava*
8. *Badvamukhi*

Types of *Jataharinies* (on the basis of mode of transmission) according to another classification[9]

3 types

a) ***Daivi* (devine)**

Acharya Kashyapa after getting knowledge of *Revati* by his intense penance (*Tapa*) and described it to his disciples for the sake of universe.

b) ***Manushi* (human)**- It is sub-classified into four

1. *Varna*
2. *Varnantara*
3. *Lingini*
4. *Karuki*

c) ***Tirashchin* (animals)**- It is sub-classified into five

1. *Shakuni* (Birds)
2. *Vanaspati* (plants)
3. *Chatushpadi* (four legged animals)
4. *Matsi* (fishes)
5. *Sarpa* (Reptiles)

***Sadhya Jataharinies*– In alive mothers these are 10 or 11 in number**

No.	Name of *Jataharinies*	Properties mentioned by *Kashyapa*	Inference
1	*Shushka revati*	Girls not getting menarche at the age of 16 or lady who is emaciated having delayed menses	Delayed menarche or amenorrhoea due to nutritional or hormonal cases
2	*Katambhara*	The woman who is emaciated, weak, and irritable, dies in her mature age without having menstruation	Primary amenorrhoea
3	*Pushpaghni*	Although woman gets her menstruation at time but she has anovular menstruation so she is unable to conceive and suffers from obesity, fatty cheeks with hairs	Polycystic ovarian syndrome or excessive androgen levels
4	*Vikuta*	Woman gets menstruation but suffering from irregularity in duration, colour, amount and feels exhausted without any cause	Irregular menstrual and Ovulatory cycle.
5	*Parisruta*	Emaciated woman having constant and excessive discharge per vaginum	Excessive leucorrhoea or discharges due to infections
6	*Andaghni*	Causes repeated early abortions at blastocyst stage	Early abortions at Blastocyst stage

7	*Durdhara*	Causes repeated abortions after formation of *Garbhanga* and harms life of woman	First and second trimester abortions
8	*Kalaratri*	Destroys the fetus possessing complete body suddenly, along with threat to the life of mother.	Sudden fetal death
9	*Mohini*	Causes non attachment of embryo or its expulsion after attachment along with death of woman.	Rupture of ectopic pregnancy or
10	*Stambhani*	Fetus does not quiver	Intra uterine demise
11	*Kroshana*	Fetus situated in uterus creates various complications	Irritable uterus i.e. threatened abortion

Yapya Jataharinies- These are sixteen in number. In woman doing righteous acts these are relapsable.

No.	Name of *Jataharini*	Properties Mentioned by Kashyapa	Inference
1	*Nakini*	Always delivers dead fetus.	Repeated still births
2	*Pishachi*	Fetus dies immediately after birth	Early neonatal death
3	*Yakshi*	Neonatal death from day 2nd to 15th day respectively	Neonatal death
4	*Aasuri*		
5	*Kali*		
6	*Varuni*		
7	*Shashti*		
8	*Bhiruka*		
9	*Yamya*		
10	*Matangi*		
11	*Bhadrakali*		
12	*Raudri*		
13	*Vardhika*		
14	*Chandika*		
15	*Kapalaalini*		
16	*Pilipichchhika*		

***Asadhya Jataharinies*: These are eight in number**

No.	Name of *Jataharini*	Properties mentioned by Kashyapa	Inference
1	*Vashya*	Repeated intra-uterine death of fetuses in 5th, 6th or 7th month.	Intra uterine death
2	*Kulakshayakari*	Woman whose sons die and daughters survive even without proper care	-
3	*Punyajani*	Children of the afflicted woman die immediately after birth.	-
4	*Paurushadini*	Progeny die before attaining the age of sixteen years	Some hemolytic disorders
5	*Sandamshi*	Immediately after conception the child born just before this conception dies.	-
6	*Karkotaki*	When conceives her one child(of twins) dies and another suffers from *Balagraha*	Twin pregnancy complications
7	*Indrawadawa*	Woman who's one or both the children of twin delivery die.	Twin pregnancy complications

8	*Badawamukhi*	When one child of one *Nabhija* (uniovular) twin dies first and subsequently second also dies.	Twin pregnancy complications

Clinical features[10] after affliction of *Jataharinies*

Due to affliction of *Jataharini* the woman gets withered and has these clinical features:

1. *Drishtivyakulataa*: Woman suffers from bewildered looks.
2. *Yathaakaalam na pushyati*: She suffers from absence of nourishment in appropriate time.
3. *Bhrashtasatva*: She suffers from unsteadiness of Psychology (*Satva*).
4. *Nirutsaahaa*: She suffers from absence of enthusiasm.
5. *Kukshishoola*: She suffers from pain in abdomen.
6. *Bhavatya Apriyaroopa*: She suffers from disagreeable looks.
7. *Roghah upadruta*: She suffers from various disorders.
8. *Vipareetasamaarambha*: She commences every work in opposite way.
9. *Vipareetanishevanee*: She consumes opposite or non-congenial edibles.
10. *Vaidhavya*: She becomes widow.
11. *Ayashah*: She faces failure at every work and loss of wealth.
12. *Kulakshayakari*: *Jataharini* after seizing destructs her family.

Chikitsa*[11] of *Jataharinies

1. *Avasinchan* of afflicted woman by the woman from whom she got *Jataharini*
2. *Prajavaran Bandha*
3. *Putrakameshti Yajna*

Brief Review of Antiphospholipid Antibody (APLA) Syndrome

- Antiphospholipid syndrome or antiphospholipid antibody syndrome (APS or APLS or Huges) is an autoimmune, hypercoagulable state caused by antibodies against cell-membrane phospholipids that provokes blood clots (thrombosis) in both arteries and veins as well as pregnancy-related complications such as miscarriage, stillbirth, preterm delivery, or severe pre-eclampsia.
- The syndrome occurs due to the Autoimmune production of Antibodies against Phospholipid (APL) of the cell membranes.
- Patients have laboratory evidence for Antibodies (IgG, IgM or IgA) against Phospholipids or Phospholipid- binding protein cofactors in their blood.

Types of APLA Syndrome- Four types-

1. Primary Antiphospholipid Syndrome (PAPS):

When APS occurs in the absence of any other related disease (LA, ACL antibodies in patient's serum).

2. Secondary Antiphospholipid syndrome:

When APS coexists with other diseases such as SLE I.

3. In Catastrophic APLA (rare):

APS leads to rapid organ failure due to generalized thrombosis and a high risk of death.

4. Other:

Rare antibodies to Phosphotidyl Ethanolamine and Phosphotidylserine are also associated with it.

Which is not an APLA antibody?

A) Anti Ro

B) Anti Insulin Antibodies

Which are the Antibodies?

A) Lupus Anticoagulant (LAC)

B) Anticardiolipin Antibodies (ACL)

C) Anti Beta- 2 glycoprotein antibodies

D) Other antibodies

[A] Lupus anticoagulant (LAC)

- LAC is characterized by a prolonged partial Thromboplastin time and paradoxically the so-called 'anticoagulant' is a powerful thrombotic agent in vivo.
- Higher thrombotic potential than ACL when present alone.
- LAC interferes with platelet function, causing aggregation & thrombosis and also interferes with endothelial function, causing procoagulant activation & thrombosis.
- Prevalence of LAC in
  - Low risk population is < 1%
  - Bad obstetric history - 9.1%,
  - Early pre eclampsia - 16%,
  - Abruption - 33%,
  - Systemic lupus erythematosus - 34%.

[B] Anticardiolipin Antibodies (ACL)

- ACL were thought to react against Cardiolipin but it is now thought to interact with B2GP1
- 85% of APS patients have both LA & ACL
- These can be detected using an ELISA.
- Screens for the presence of β-2 Glycoprotein 1 dependent Anticardiolipin antibodies (ACA)

[C] Anti Beta- 2 GP1

- Discovered after LA & ACL.
- Found without other two in 11% of APS patients and commonly with others.
- Binds to B2GP1 disrupting f(x).
- B2GP1 has anticoagulant activity through the inhibition of the conversion of Prothrombin

Thrombin, regulation of protein S, & /or activation of platelets.

Thrombophilic defects- Either Acquired or Inherited

Thrombophilia- Tendency to thrombosis**.**

[1] Acquired APLA

1. Lupus anticoagulant antibodies
2. Anticardiolipin antibodies

- Myeloproliferative diseases
- Malignancy
- Paroxysmal nocturnal Haemoglobinuria
- Nephrotic syndrome

[2] Inherited APLA

- Hyperhomocysteinemia (C677T) mutation
- Factor V Leiden mutation (A506G) mutation
- Mutation in Prothrombin (G 20210 A)
- Prothrombin II (PTII) mutation
- Protein S deficiency
- Protein C deficiency

All these conditions should be investigated for APLA except

A.) Early onset severe Pre- Eclampsia
B.) Arterial or venous thrombosis
C.) Unexplained fetal growth restriction
D.) Gestational Diabetes

Diagnosis of Apla

- Due to fluctuating titers of the antibodies,
- Lack of agreement between laboratories concerning standardization of the assays,
- Debates among researchers and clinicians concerning which antibodies to measure.

Pathology

Pregnancy losses classified as:

- Occult (preclinical or chemical) pregnancy loss prior to missed menses. (40% of implantation embryos)
- Early pregnancy loss before 12 week (13%)
- Late pregnancy loss after 12 week (1%)

Causes of pregnancy loss:

- **Chromosomal-** 55% of occult & early losses 5% of recurrent losses.
- **Environmental-**

1. Immunological- It includes 5% of early losses and 95% of late losses.
2. Anatomical
3. Hormonal

What is Recurrent pregnancy loss? What actually causes it?

- A Recurrent pregnancy loss (RPL) is three or more consecutive, spontaneous pregnancy losses, under 20 weeks of gestation from the last menstrual period by the same partner.
- "Primary recurrent pregnancy loss" refers to couples that have never had a live birth.
- "Secondary RPL" refers to those who have had repetitive losses following a successful pregnancy.

Primary Antiphospholipid Antibody Syndrome

Presentation may be totally asymptomatic or in a classical manner

Various clinical presentations,

- Recurrent pregnancy loss
- Unexplained second / third trimester loss
- Early onset severe pre-eclampsia
- Arterial or venous thrombosis
- Unexplained fetal growth restriction
- Prolonged coagulation studies
- Autoimmune diseases
- Cardiac valvular diseases
- Neurological disorders
- Thrombocytopenia

Sapporo Criteria (updated)

Pregnancy Criteria

- One or more unexplained fetal deaths > 10 weeks of pregnancy.
- One or more Pre-eclampsia/Eclampsia or placental insufficiencies occurring before 34 weeks.
- Three or more unexplained consecutive spontaneous abortions < 10 weeks.

Laboratory criteria

- ✓ LAC defined by a functional, clot-based assay (ISTH guidelines)
- ✓ ACL (IgG or IgM) antibody
- ✓ Anti-Beta-2 Glycoprotein 1, IgG or IgM antibody (Miyakis, et al., J. Thromb. Haemost., 2006; 4: 295-306).

Management

Controversies surrounding treatment for pregnancy loss

Evidence-based medicine (EBM) has not succeeded in giving patients and physicians, the data they need to choose (or not choose) a therapy in the field of pregnancy loss.

How to proceed?

- Interview the couple together
- History of the case is very important
- Clinical examination
- Investigations as per the history
- Reassurance and Counseling

- Treatment plan: Drugs, maternal and fetal surveillance, dealing with complications.
- Timely referral to a tertiary centre.

So how does one manage the drug treatment in pregnancy?

General guidelines for anticoagulation in Pregnancy with APS leading to recurrent pregnancy loss is very controversial issue.

Commonly used Drugs

- Steroids: Reduces ACA, normalizes prolongation of invitro coagulation.

  Complications?

  Perinatal outcome, preterm labour, pre-eclampsia.
- Low dose Aspirin (LDA): Selective inhibition of Thromboxane A2 and no effect on PGI2.
- Azathioprine
- Warfarin

Which is the commonly used drug for APLA?

A) Progesterone

B) Folic acid

C) Low dose Aspirin

D) RU- 486

Unfractionated Heparin (UFH)

- Potentiates complex formation with AT III + factor VII A → XII A & Thrombin
- **Complications:** Reduces platelet bleeding and B.M.D.

Low molecular weight Heparin (LMWH)

- Once daily dose, less monitoring
- Lesser Osteopenia, does not cross placenta
- Cost factor.

Trials

- Heparin vs Aspirin + prednisolone

  Live birth 75%

  Pre-eclampsia, preterm delivery more in latter group.
- L.S. + LDA Vs Heparin + LDA (n=20)
- No placebo
- Large multicentric trials needed (Cowchock et al .1994)

DISCUSSION

Pregnancy loss in the APLA syndrome

Both *Jaataharini* and APLA syndrome are silent killers of fetus inutero. The presence of APL antibodies will be detected usually when recurrent pregnancy loss occurs, which indicate that this is not a routine investigation in ANC. This will be the drawback for good fetal outcome. It is not precisely known how these antibodies cause damage, but it is likely that their actions are multifactorial. Ayurveda explains that for formation of *Garbha, Panchamahabhuta* and *Beeja* plays an important role. Both will be strongly influenced by *Beeja dosha* and *Daiva.* APLA starts with the pathology at the level of cell immunology and mainly genetic mutations, so Ayurveda explained some references related with fundamental factors.

Role of *Panchamahabhuta* in Formation of APLA[12,13,14]

There is no direct reference related to the Pathophysiology of *Jataharinies,* so by considering the basic fundamentals we can postulate *Samprapti* like this

- *Panchamahabhutas*, the basic entities in our body are responsible for establishment of structural and functional aspects.
- *Sushruta* says "*Apratihanana*" i.e., continuation of normal functions is the property of *Panchamahabhutas* like *Kayakriya, Vakkriya*, also *Garbhakriya*.
- *Dhamanies* carry these *Mahabhutas* in whole body and Dalhana clarifies that when the time of destruction comes first these *Dhamanies* will play a key role.

Role of *Rakta Dushti* in formation of APLA[15,16,17]

According to *Sushruta* Samhita we can observe that *Rakta and Artava* are having similar properties. *Sushruta* states that "*Rakta Lakshanamartavam Garbhakrichcha". Dalhana* commenting on this says that *Cha* means all the functions of *Rakta* are also carried by *Shuddha artava*.

- The effects of large amounts of estrogen, progesterone, and prolactin must be considered. For example, Estrogens up-regulate and Androgens down-regulate T-cell response, and a number of cytokines are regulated by sex hormones. (Lockshin and Druzin, 1995; Refojo and colleagues, 2003)
- Lockshin (2002) postulates a modulating effect of hormones rather than a causative role.

Role of *Kapha Dosha*[18] in Formation of APLA

(According to Su.S. Shareera)

In the pathology of APLA we have seen the role of Thrombogenesis which we can observe in *Sushruta's* opinion. *Bahala* i.e., clotting and *Gairikodaka Prateekansham* which is nothing but normal consistency of *Rakta* are brought by normal *Kapha*. In pregnancy normal physiological hematological changes like increased plasma volume may lead to production of thrombotic agents and antibodies.

Kapha Bahala (clotting) and *Gairikodaka prateekansham* (the more plasma, which leads to the

production of Annexin V and antibodies). *Mamsa, Peshee, Prabham* means clotting. (Su.S. Sutra.14/21)

B-2 Glycoprotein 1 and *Kapha dosha*

- B-2 Glycoprotein1 (Apolipoprotein H) *Kapha* being same property.

  Proteins are anabolic agents.
- B-2 Glycoprotein 1 more on the surface of the syncytiotrophoblast.
- B-2 Glycoprotein 1 inhibits clotting factors (Factor XII) and prothrombinase complex.
  - B-2 Glycoprotein may be involved in implantation because it is known that, this protein binds Heparin. Moreover, trophoblastic cells have Heparin like binding sites.
  - So, *Kapha dushti* cause accumulation of clotting factors in *Rakta dhatu* by allowing the Factor XII, Prothrombinase and preventing from binding with Heparin.
  - So fall in B-2 glycoprotein might prevent implantation or result in intervilleous space thrombosis or both.

Role of *Ojas*[19,20] (Immunity) in Formation of APLA

- Immunity in the aspect of Ayurveda is considered under *Ojas*. Sushruta states that if *Ojas* is absent, body tissues start to degenerate. Charaka clearly says that in *Garbhavastha* the *Ojas* is present in three forms
  1. Before the formation of *Garbha* ie, *Saara* of *Shukra* and *Shonita* act as *Ojas.*
  2. After formation of *Kalala* i.e., embryo in the form of *Rasa Saara.*
  3. During the organogenesis in the form of preventive cell layer or tissue layer.
- The immune system is designed to protect cells, tissues, and organs perceived as self and to attack and destroy foreign or none self antigenic material by the production of antibodies. This protection has two phases:
  - Innate phase, which is broad and rapid and is mediated through Neutrophils, Macrophages, and complement.
  - Adaptive phase, which is precise and is caused by antigen-specific reactions through T and B lymphocytes that result in memory for future exposures (Parkin and Cohen, 2001).
- The immune system may be stimulated to begin producing antibodies directed against self or normal tissues. These misdirected antibodies are called Auto-antibodies. The stimulus responsible for their production is unknown, but a variety of inciting reasons are suspected that include bacterial or viral injury to genetically susceptible tissues. Aggravated *Vata dosha* guides this phenomena with its property. As explained by *Charaka acharya* in (Cha. Su. 12/8) like,

Vaayustantrayantradharah…..Kartaagarbhakriteena||

- Auto-antibodies induce destruction in susceptible tissues by at least two mechanisms:
  - ✓The cytotoxic mechanism involves direct antibody attachment to a specific surface antigen, which results in cell injury or destruction.
  - ✓The immune-complex mechanism results in tissue damage when the antigen–antibody complex attaches to a susceptible tissue.

Samanya Chikitsa Sutra

1) *Garbhini Paricharya*
2) Hygiene
3) Timely treatment for minor ailments.
4) Psychological support
5) *Pumsavana*
6) *Kledahara oushadhi prayoga* especially in 2nd trimester
7) *Daiva vyapashraya chikitsa*

CONCLUSION

Both *Jaataharini* and APLA syndrome are silent killers of fetus in utero. The presence of APL Antibodies will be detected usually when recurrent pregnancy loss occurs, which indicate that this is not a routine investigation in ANC. This will be the drawback for good fetal outcome. It is too difficult to draw accurate correlations and aetio-pathogenesis of *Jaathaharini* because of unavailability of full version of *Kashyapa Samhita* and no references in *Brihatrayees*. Only on the basis of unexplainable mode of onset of syndrome and fetal recurrent losses explained under this context, I tried to correlate these explanations under APLA syndrome. In cases of adverse pregnancy outcomes APLA should be kept in mind. The only intervention to have demonstrated benefit is serial ultrasound scans in early months of pregnancy. For patients with APLA/ Thrombophilia, referral to a tertiary unit as multidisciplinary management is required. Psychological support is required. Couple should be counselled together. Education and reassurance has an important role to play.

REFERENCES

1. Sudha Salhan, Textbook of Obstetrics, Published by Jaypee Brothers Medical Publishers(P)Ltd, New Delhi , First edition:2007, Chapter-26, Page no.-237.
2. P.V. Tewari, Kasyapa–Samhita or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation And Commentary by Prof.P. V. Tewari, Publisher–

Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter– 6, Kalpa Sthana, Verse7, Page No. 352.
3. D.C.Dutta, Text Book of Obstetrics, Edited by Hiralal Konar, Published by New Central Book Agency(P)LTD., Calcutta, Sixth edition-reprint: 2006, chapter-22, page no.-331.
4. P.V.Tewari, Kasyapa–Samhita or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation And Commentary by Prof.P. V. Tewari, Publisher– Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter– 6, Kalpa Sthana, Verse7, Page No. 352.
5. P.V.Tewari, Kasyapa–Samhita or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation And Commentary by Prof.P. V. Tewari, Publisher– Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter– 6, Kalpa Sthana, Verse8, Page No. 354.
6. P.V.Tewari, Kasyapa–Samhita or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation And Commentary by Prof.P. V. Tewari, Publisher– Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter– 6, Kalpa Sthana, Verse7, Page No. 362.
7. P.V.Tewari, Kasyapa–Samhita or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation And Commentary by Prof.P. V. Tewari, Publisher– Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter– 6, Kalpa Sthana, Verse7, Page No. 352.
8. P.V.Tewari, Kasyapa–Samhita or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation And Commentary by Prof.P. V. Tewari, Publisher– Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter– 6, Kalpa Sthana, Verse30-31, Page No. 357.
9. P.V.Tewari, Kasyapa–Samhita or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation and Commentary by Prof.P. V. Tewari, Publisher– Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter – 6, Kalpa Sthana, Verse62, Page No. 362.
10. P.V. Tewari, Kasyapa–Samhita Or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation And Commentary by Prof.P. V. Tewari, Publisher– Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter– 6, Kalpa Sthana, Verse25-30, Page No. 356-357.
11. P.V. Tewari, Kasyapa–Samhita or Vrddhajivkiya Tantra, Edited by Prof. P. V. Tewari, Translation and Commentary by Prof.P. V. Tewari, Publisher– Chaukhambha Visva Bharati Varanasi, Edition Reprint 2013, Chapter– 6, Kalpa Sthana, Verse80, Page No. 371.
12. Sushruta Samhita by Kaviraj Ambikadutta Shastri, Dalhana commentary, Chaukhambha Sanskrit Sansthan, Varanasi-Reprint edition 2005, Sharirasthana, chapter-7, sloka-8. Page no. 60.
13. Ibid; chapter-9, sloka-11. Page no. 70.
14. Ibid
15. Sushruta Samhita by Kaviraj Ambikadutta Shastri, Dalhana commentary, Chaukhambha Sanskrit Sansthan, Varanasi- Reprint edition 2005, Sutrasthana, chapter-14, sloka-6, Page no. 48.
16. Ibid; chapter-15, sloka-9. Page no. 58.
17. Ibid; chapter-14, sloka- 18. Page no. 52.
18. Ibid; Sharirasthana, chapter-7, sloka-18. Page no. 61.
19. Ibid; Sutrasthana, chapter-15 sloka-27. Page no. 61.
20. Agnivesha Acharya, Caraka Samhita (Part– 1), Revised by Caraka And Drdhabala With Introduction By Vaidya Samrata– Sri Satya Narayana Sastri with Elaborated Commentary by Pt. Kasinatha Sastri And Dr.Gorakha Natha Chaturvedi, Edited By Pt. Rajeswaradatta Sastri et al., Publisher– Chaukhambha Bharati Academy Varanasi, Reprint Edition 2005, Sutra Sthana, Chapter-30, Sloka No. 10-11, Page No. 583.

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