An analytical study of different clinical presentation of Diabetes mellitus: Ayurveda perspective

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Abstract

Introduction: Ancient ayurveda scholars have opined the nomenclatures of all the diseases may not be available in transcript but these can be managed through the daushika concern. Similarly, diabetes mellitus is a metabolic disorder, which has not mentioned in classical texts but it can be diagnosed based on yukti pramaṇa.

Present study aimed to analyze the various diagnosed cases of diabetes mellitus through the light of ayurveda pathogenesis. Methodology: Six diagnosed cases of diabetes mellitus admitted in IPD of NIA hospital with different clinical symptoms were critically analyzed with the help of ayurveda principle of diseases pathology. Secondary data from various published journal were also utilized to draw the conclusion. result and observation: Study interpreted case no.1-presented with drug history and diabetes can be diagnosed as dushi visha. Case no.2 presented with overweight and diabetes can be diagnosed as medo vaha srota dushthi. Case no.3 itching and blister in external genitalia can be diagnosed as vrishana kacchu. Case no.4 burning and tingling sensation over the extremities can be diagnosed as purvarupa of prameha. Case no.5 multiple joint pain with family history of diabetes can be diagnosed as beeva dosha. Case no.6 diabetes with fever, vomiting, burning micturation etc. can be diagnosed under upadava of kaphaja and Pittaja prameha. Discussion and Conclusion: Present study revealed laboratorial investigation could provide only a supportive media for proper diagnosis and treatment. For serving, the novel healing approach of ayurveda diagnosis of diseases through ayurveda is a prime phenomenon.

Keywords: Ayurveda diagnosis, Prameha, Dosha.

INTRODUCTION

Hetu (aetiology), linga (sign and symptoms), oushadha (drug and therapy) are the trisutra (principles) of ayurveda[1]. Without the knowledge of hetu (cause of a disease) and linga (sign and symptoms), the insinuation of oushadha (drug and therapy) is not feasible. In the present Era, many novel diseases are emerging with varied features; all of these has not mentioned in our compendium but based on dosha, dashya, srota, agni etc. (tools for diagnosis of diseases in ayurveda) we can make out the disease as well as management. Ancient ayurveda scholars have opined the nomenclatures of all the diseases may not be available in transcript but these can be managed through the daushika concern. A disease is caused due to specific causative factors followed by the pathogenesis with the materialization of sign and symptoms and if it is ignored the complication is the next fate [2]. Likewise, diabetes mellitus is a metabolic disorder, which has not mentioned in our classical text. However, we may diagnose the condition based on yukti pramaṇa (logical inference). According to the modern science, the diagnoses of diseases are depending on laboratorial investigation and the nomenclature is depending on some basic elements. On the other hand, to reveal this process, nidana (cause), purvarupa (prodormal symptoms), rupa (sign and symptoms), upashaya (association) and samprapti (pathogenesis) are considered as the basic tools. The diagnosis and nomenclature is depends on bala, prabhava, udhaha sithana, dosha, etc[3]. Present study aimed to analyze the various diagnosed cases of diabetes mellitus through the light of ayurveda pathogenesis.

METHODOLOGY

Detailed history of diagnosed cases of diabetes mellitus with different presentations admitted in IPD of NIA hospital of was taken and scrutinized with the various pathological phenomenon of ayurveda mentioned in classical texts. Secondary data resources from various journal and internet sources were also analyzed to draw a solid discussion.
MATERIALS AND METHODS

Result and Observation:

Case no.1: A 60-years-old woman with a 3-year history of diabetes complained for worsening dyspnoea with walking one third of a block and a persistent cough for last 15 days. She was suffering from chronic obstructive pulmonary disease (COPD) since age 55. Her type 2 diabetes was under control with diet and exercise. Physical exam: revealed an anxious look with blood pressure 130/70mm Hg, pulse 120/minute and regular, respiratory rate 24/minute, and weight 180 lb. Lungs cleared to percussion, but wheezing was present bilaterally.

Pathological pathway:

Drug taken repeatedly for long period → Drug acts as a *dushi visha* (vyabhichari nidana)

- Situated in different *srota* in dormant stage
- Vitiates the particular *srota* in appropriate time
- Makes several pathological conditions

Case no.2: A 48-years old woman came to doctor for getting advice about her weight gain. She was married, had two children in school and worked full time as a bookkeeper. She used to take breakfast and dinner at home and lunch at various locations. Clinical profile: Age: 48 years, Weight: 178lbs or 81kg, Height: 5’3”, BMI: 31.5, anaemia, jaundice, cyanosis etc. all were absent. No such family history regarding obesity. Laboratorial investigation: Glucose monitoring last HbA1C: 8.2%, Fasting blood sugar: 158 mg/dl, Random: 219mg/dl, Lipid Profile Total: 230 mg/dl, LDL:145mg/dl, HDL:45 mg/dl, Triglycerides: 200 mg/dl, Kidney Profile Creatinine :1.0 mg/dl, Micro-albuminuria: negative, Liver Function ALT: normal, AST: normal, Blood pressure- 130/82 mm of Hg, Cardio vascular condition normal, Eye Exam: Normal, Foot Exam: normal pulses and sensation . Life style: No such compliance with meal plan. Limited activity and rare exercise. Medications: For blood glucose: none. For other conditions: Antihistamines for nasal allergies, Non steroidal Anti-inflammatory Drugs (NSAIDs) for joint pain.

Pathological pathway:

Intake of *nidana*

- *Meda vaha srota* is vitiate
- Formation of *Abadha* (unformed) and *badha* (formed) *meda* in excessive amount.
- Several disease phenomenon’s
  - Like *Meda roga, Prameha purvarupa etc*

Case no.3: A 40 years Muslim male farmer, belonging to lower socioeconomic status from Ramgar, Rajasthan, came to OPD, NIA, with complains of itching and blister formation over the external genitalia for last 15days. This condition was gradually progressive. On Personal history: Appetite was less, Bowel: not passed regularly, solid and yellowish in colour, Bladder- regular, frequency normal, pale yellowish in colour, Sleep: disturbed, 6 hours /day. On physical examination: Face was anxious , Pallor, jaundice, cyanosis, edema, clubbing etc . was absent, Weight- 75 kg. Height-52, BP was 120/80 mm of Hg, pulse rate was 80 beats/min, regular, low volume; Tongue examination revealed coated. On Systemic examination, Genito-urinary system showed mild tenderness, scratching marks with discharge and blister formation over the scrotum. G.I. system showed mild tenderness over the right hypogastric region. On routine laboratorial investigation: CBC within normal limit, HbA1C: 6.7%, FBS was 131 mg/dl, and PPBS was 183 mg/dl on 22/8/16. Urine examination showed on physical character; colour —pale yellow, sugar- trace, 10/9/2016. In addition, he had diagnosed by the doctor of allopathic system of medicine as a type 2 diabetes mellitus.

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*Ayurveda interpretation:* Present case in *ayurveda* can be diagnosed under the concept of *dushi visha*.
Pathological pathway:

Formation of kleda due to nidana

Mala (waste product) in external genitalia

Kapha dosha is aggravated

Vitiates rakta (blood) and sveda (sweat).

Prakledana (stickiness of the body) of mala (waste product)

Vrishana kacchu

Case no.4: The patient was slightly overweight, sedentary 68 years old male with a 15 year history of impaired glucose tolerance. He stopped smoking and alcohol 16 years ago. Other medical problems were hypertension and hypercholesterolemia, which were treated with an angiotensin converting enzyme inhibitor and astatine respectively. The patient had no such drug allergies. His glucose in tolerance was discovering with routine laboratory testing. He referred for diabetes education, learned home glucose monitoring and followed a diet and exercise program suggested by the diabetes educator approximately four months ago; suddenly he noticed a burning and tingling in his hands and feet. The patient also felt that his sense of balance was diminishing but thought it was merely a sign of aging and was reluctant to see a doctor. His physical examination was unremarkable except for some hyperesthesia of hands and feet as well as decreased vibratory sensation. The patient had no open lesions over his foot and hand, intact protective sensation for both feet. Reflexes were normal and pedal pulses were palpable. On examination: slight ataxia was present. The patient had no clinical signs of depression. Laboratory studies revealed normal except for fasting blood glucose of 136mg/dl. His HbA1c was 7.6%, up from 7.1% six months earlier. A complete blood count, lipid profile, liver screening and a renal profile were normal, as well as prostate specific antigen (PSA) test too revealed normal. Serum levels of B12, T3, T4 thyroid stimulating hormone (TSH) were within normal limits.

Ayurveda interpretation: Present case in ayurveda can be diagnosed under the concept of Purvarupa of Prameha.

Pathological pathway:

Intake of the nidana Meda vaha srota dusthi

Formation of abadha meda

Ushana (heat) and tikshna eminence obstructed the sveda vahadi srota

Tulya guna of kapha and abadhya meda of pitta is accomplish entire body

Vaya gets aggravated

Shatapada pipeelika abhisarana, suptata etc.

Case no.5: A 60 years Hindu female house wife, belonging to middle socioeconomic status from Phulera, Rajasthan, admitted in IPD, bed no.58/KC, case no.5304, room no.16, complains that pain in multiple big joints with morning stiffness (1/2 hours) for last 6 years associated with pain in upper abdomen for last 6th month and cough for last 4-5 days. This condition was gradually progressive. She had past H/O of Hysterectomy at 20 years back. Parents, brother sisters all were suffering from the disease Diabetes mellitus. On menstrual history menopause was occurs at 20 years beck. On Personal history : Appetite was less, Bowel: 1 days alternately, hard, yellowish in colour, Bladder : regular, frequency increases, yellowish in colour, foul smell with burning micturation. Sleep: disturbed, 3-4 hours /day. On Physical examination: Face was anxious , Pallor, jaundice, cyanosis, edema, clubbing etc. was absent , Weight- 84 kg. Height- 5’2”, BP was 140/80 mm of Hg, pulse rate was 88 beats/min, regular, low volume; Tongue examination revealed moist. On Systemic examination, Locomotors system showed no such deformity over the joints, swelling in left knee joint and left wrist joint, veins were prominent over the both leg, crepitation was present in both knee joints and pain radiates from low back region to towards leg. G.I. system showed mild tenderness over the right hypochondriac region and liver was palpable. Laboratorial investigation: USG: Enlarged and fatty liver on 11/9/2016. FBS: 200 mg/dl and PPBS 210 mg/dl on 17/11/2016 and now FBS is 192 mg/dl on 17/12/2016.

Ayurveda interpretation: Present case in ayurveda can be diagnosed under the concept of Beeja dosha.
Case no.6: A 50 years Hindu male labour, belonging to lower socioeconomic status from Ramgar, Rajasthan, was admitted in IPD, bed no.155/KC, with complaints of raising body temperature with chill and rigor for last 8 months associated with loss of appetite and vomiting for last 20 days. This condition was gradually progressive. He had past H/O of Hypertension and Diabetes mellitus for last 5 years. On Personal history: Appetite was less, Bowel: regular but solid with foul smell and yellowish in colour, Bladder regular, frequency increases and passes drop by drop, pale yellowish in colour with burning micturation, Sleep: disturbed, 3-4 hours /day. On Physical examination: Face was anxious, Pallor, jaundice, cyanosis, edema, clubbing etc., was absent, Weight- 65 kg. Height- 6 ft, BP was 130/80 mm of Hg, pulse rate was 100 beats /min, regular, low volume; Tongue examination revealed dehydrated and coated. On Systemic examination, Genito-urinary system showed mild tenderness over the right hypogastric and low back region. G.I. system showed mild tenderness over the right hypochondriac region and liver was palpable. Laboratorial investigation: CBC within normal limit, blood urea was 45.5 mg/dl, HbA1C: 7.9%, FBS was 326 mg/dl, Liver function test showed S.G.O.T- 54.6 mg/dl S.G.P.T- 39 mg/dl and others were within normal limit on 7/11/16. Urine examination showed on physical character colour–pale yellow, sugar- trace, on microscopic examination showed Pus cell 7-8 HPF, Epithelial cells -2-3 HPF, USG showed Hepatomegaly on 9/11/2016.

Ayurveda interpretation: Present case in ayurveda can be diagnosed under Upadrava of Kaphaja and Pittaja Premeha.

Intake of Ahara Second stage of ahara paka (digestion) altered, in place of amla paka it converts into madhura paka Sthanik kapha increase ( As Urdha amashaya is the place of kapha Dravata of kapha Causes Mandagni Vata also aggravatd specially vyana and udana vayu Undigested food particles are expel out through the mouth Chardi (vomiting).

Vata, kapha dosha and meda dhatu is vitiataed along with pitta Kapha and meda, obstructed the sveda vahadi srota Ushana (heat) quality of pitta is spread whole over the body Jvara (fever)

Pathological pathway:

Pathological pathway:

Beeja dosha act as a nidana

Nidana sevan

Kha vaigunya

Dosha prakopana, dhatu pradoshana

Kshetra (platform) is form

Exposed to the particular nidana

Dosha prakopana, dhatu pradoshana occurs

Dosha dushya sammurchana

Produced several diseases

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DISCUSSION

In the case no.1, patient used to take various synthetic drugs repeatedly for long period. Such type of drugs acts like a dushi visha. As we know dushi visha is a type of visha which can gradually manifests in the body within a stretched period \[4\]. In context of dushi visha it is mentioned that due to its low strength it does not act immediately in the formation of disease, like vyabhichari nidana. It has situated in different srota in dormant stage. After a certain period, it is vitiated the particular srota and makes several pathological conditions in our body \[3\]. Therefore, the condition has occurred due to effect of dushi visha (case no.-1)

One important physiological perceptible fact mentioned in ayurveda i.e dhatu poshana nyaya. In case no.2, some pathological changes are find out in dhatu poshana nyaya. Normally saptap dhatu gets nutrition by sequential order but in this case, the other dhatu like rasa (plasma); rakta (blood) etc. are not nourished properly only the meda dhatu (fat tissue) take maximum nutrients \[6\]. This changes are occurring due to vitiation of meda vaha srota and this srota (channel) is directly vitiated by the nidana (etiopathological factor) like food habit, life style , limited activity , rare exercise etc. and produced abadha (uniformed) and badha (formed) meda which is excessive in amount and instigate several disease phenomenon like Meda roga, Prameha pravarupa etc\[7\]. Therefore, it has been diagnosed as Meda vaha srota dusthi (case no.-2).

In case no.3, it was observed due to nidana (etiopathological factor) there was formation of kleda (stickiness) by which the mala (waste product) accumulated into the external genitalia. From which the kapha dosha was annoyed and vitiates the rakta (blood) and sveda (sweat). Rakta (blood) and sveda (sweat) both have drava (liquid) quality by which prakledana (stickiness of the body) of mala (waste product) occurs very easily and the external genitalia becomes wet in nature. Thus, there was excessive kanda (itching), formation of blister and discharge \[8\]. Therefore, it has been diagnosed as Vrishana kacchi (case no.-3).

In case no.4, all the tridosha (basic elements of body) and meda (fat), asra (blood), sukra ambu (body fluid), vasa (muscle fat), lasika (lymph), maaja (bone marrow), rasa (plasma),oja (vital strength) and mansa (muscle) are responsible factors for the causation of this condition\[9\]. In this condition abadha meda (uniformed) was produced due to Meda vaha srota dusthi. This srota was vitiated by tridosha (basic elements of body) due to intake of the nidana (etiopathological factor) like food habit, addiction etc. Due to tulya guna of kapha and abadha meda, there was obstruction of sveda vahadi srota and eventually the ushana (heat) and tikshna eminence of pitta accomplished entire body and produced daha (burning sensation). Due to vyadhi prabhava the daha was utmost comprehended in kara pada (hand and feet) \[10\]. In this case particular pathological process “rasa sveda vahini srotamsi pidhaya…” perhaps takes place. When there is obstruction vayu gets aggravated and produced numerous symptoms like shatatapda pipeleika abhisarana (some hyperesthesia of both hand and feet), suptata (decreased vibratory sensation) etc. Thus, this presented condition can be diagnosed under the purvarupa of Prameha (case no.-4).

In case no.5, it was observed from her history that the conditions were occurred due to beejda dosha. Scholars of ancient Ayurveda described regarding the concept of beejda dosha. In such case, persons are more susceptible for formation of disease as kha vaigunya takes pro position in the pathogenesis of diseases progress due to presence of beejda dosha in body. The basic component of roga is dosha prakopana, dhatu pradoshana and kha vaigunya\[11\]. As we know, nidana (etiopathological factor) is a responsible factor for kha vaigunya. In this case beejda dosha act as a nidana (etiopathological factor). By which there is already prepared a platform for formation of diseases. On the other hand, in every person have some weak points in body from very beginning. In this case, dosha (basic elements of the body) remains inactive in the dhatu and when a preferable condition appears then it may be flourished and produced several diseases, as a seed remains dormant on the soil until suitable time when it germinates\[12\]. It is the case of vyadhi sankar. As there is an already prepared kshetra (platform) for the progression of disease pathogenesis, therefore if persons exposed to the particular nidana (etiopathological factor) pathological process of particular disease occurs promptly. Based on this phenomenon case no.5 was diagnosed under the effect of Beejda dosha (case no.-5).

The ailment, which is associated with a disease and is manifested after the manifestation of the main diseases, is called upadrava (complication) \[13\]. In case no.6, patients were presenting the features like jvara (fever), arocaka (anorexia), chardi (vomiting), daha (burning micturation), and abhikshha alpa alpa mutra (increased frequency of urine and urinary incontinence) etc. All of these are the upadrava (complication) of Kapahaja and Pittaja Prameha\[14\]. In this case all the symptoms has generated under the following pathogenesis. Prameha is a tridoshaja vyadhi, in this disease the vahu drava sleshma is the primary dosha\[15\]. There is alteration in physiology of ahara paka, the second stage of ahara paka is converted into madhura paka instead of amla paka and sthanik kapha become increased in amashaya. Specifically drava (liquidity in nature) quality increased and altered the agni (digestive fire) from arochaka (aversion of food) is
manifested. In *Kaphaja Prameha*, *vata, pitta* and *meda dhatu* get vitiated specially along with *kapha*.[16] *Dravata* of *kapha* vitiates the *agni* (digestive fire) as well as *vata* (specially *vyana* and *udana vyana*), those are responsible factor for *cettha* (movement) which expels the undigested food particles through the mouth.[17] In *Pittaaja prameha*, *vata, kapha dosha* and *rakta, meda, dhatu* are vitiated along with *pitta*.[16] Due to *tulya guna* of *kapha* and *meda*, there is obstruction of *sveda vahadi srota*, hence the *ushma* (heat) quality of *pitta* is stretched all over the body and produced *jvara* (fever). Due to combination of *hetu, dosha* and *dashya* there is excessive formation of *kapha* that may spread all over body due to *sharira shithilya*. Further, this *vikrita kapha* vitiates the *meda dhatu* due to *tulya guna* and together vitiates the *sharira kleda* and *mamsa*. This vitiated *kleda* converted into *mutra* (urine). After that the vitiated *meda dhatu* and *kleda* mixed with *pitta ushna* enters into *mutra vaha srota* (urinary tract) and obstructs the *srota* (channel). Therefore retention of *mutra* (urine) occurs which ultimately produced *daha in mutrashaya* (burning micturation) and *abhiksha alpa alpa mutra* (drop by drop urine with increased frequency).[18] Therefore, case no.6 has diagnosed as *upadrava* condition of *Kaphaja* and *Pittaaja Prameha* (case no.-6).

**CONCLUSION**

So from the above case study it is clear that understanding of pathophysiology of diseases is very essential. Without the knowledge of *pancha nidana* (etiological factor), diagnosis is relatively impossible. Only based on laboratorial investigation diagnosis is not possible properly. Laboratorial investigation can provide only a supportive media for a proper diagnosis and treatment.

**No conflict of interest:** Nil

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