Conceptual study of Role of Gokshuradi Guggul in Mootravaha Srotodushti in Madhumeha with special reference to Diabetic Nephropathy

KEYWORDS
Prameha, Madhumeha, Diabetic Nephropathy, Gokshuradi Guggul

ABSTRACT
Introduction- Diabetes Mellitus has become ever growing world-wide health problem in all socio-economic groups leading to various complications like Nephropathy which are responsible for morbidity & mortality. It is observed that even a patient having well controlled D.M. can suffer from Nephropathy. As per Varughese and Jacob (2010), currently approximately 20-30 % of diabetic patients (type 1 & 2) develop nephropathy in developed and some developing countries like India, which is a leading cause of End-Stage-Renal-Disease.

Ayurveda comes across as therapeutic healing science that uses natural elements and traditional techniques to balance vitiated doshas and eradicate diseases from body by using various ayurvedic preparations. ‘Gokshuradi guggul’ is one of such combined ayurvedic preparations mentioned in ‘sharanghara samhita’ and ‘Yoga Ratnakar’ which acts on ‘sharanghara samhita’ and ‘Yoga Ratnakar’ which acts on

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RESERCH PAPER

INTRODUCTION

The word ‘Diabetes’ means ‘passing through’ referring to ‘Polyuria’ - a symptom historically present in those affected by disease. Diabetes Mellitus (D.M.) has become ever growing world-wide health problem in all socio-economic groups leading to various complications like Nephropathy which are responsible for morbidity & mortality. It is observed that even a patient having well controlled D.M. can suffer from Nephropathy. As per Varughese and Jacob (2010), currently approximately 20-30 % of diabetic patients (type 1 & 2) develop nephropathy in developed and some developing countries like India, which is a leading cause of End-Stage-Renal-Disease.

In modern medical sciences, symptomatology of Madhumeha can be correlated with features of Diabetes Mellitus. Vitiated doshas ( vata, pitta, kapha) in Madhumeha vitiate Mootravaha Srotas affecting its normal functions.

“Tasya chaiva pravruttyasaaparipakwa eva vatapittashlesh-mano yada medasa

Sahakatwamupetya Mootravahai srotamsi anusrutyaadhoh gatwa

Bastermukhamashrityanirbhiddyante tada Pramehan janayanti||”

(Sushrut Nidanstan 6/4…pg. no. 502) (Sharma, 2010)

Hetu Sevan (causative factors like fast food, faulty life style, stress free life etc.) leads to aama-apperipakwa (malformed) Vata, Pitta and Kapha doshas which get mixed in a body of a person and integrated with meda dhatu(fat) and move down through urine carrying channels to the opening of urinary bladder & are excreted, then different types of Prameha originate.

According to Ayurveda, Nephropathy is a disease of Mootravaha Srotas which develops mainly due to glomerular sclerosis and arteriosclerosis in kidney. All three vitiated doshas are responsible for disease, but vitiated kapha is mainly responsible for blocking of micro vessels and developing microangiopathy.

Ayurveda proves nourishment & maintains patency of Mootravaha srotas & improves resistance of kidney tissues against any adversity.

Objective-1) To study Mootravaha Srotodushti in Madhumeha & its correlation with Diabetic Nephropathy. 2) To study efficacy of Gokshuradi Guggul in Mootravaha Srotodushti in Madhumeha. Materials & Methodology-1)Literary study of Mootravaha Srotodushti in Madhumeha & Diabetic Nephropathy was done.2)Literary study of efficacy of Gokshuradi Guggul in Mootravaha Srotodushti in Madhumeha was done. Discussion - Gokshuradi Guggul has Mootravaha srotodushti nashak [correcting vitiated urine carrying channels] & tridoshaghna (balancing 3 constituents of body- vata, pitta, kapha) effect in Prameha. Conclusion- Gokshuradi Guggul improves nourishment & maintains patency of Mootravaha srotas & improves resistance of kidney tissues against any adversity.

“Ashtavimshatisankhyani palanyi prakruti gokshurat | Vipachet shadgune nire kwrho grahyo ardhasheshitah |

Tatah punah pachet tatra puram saaptalam kshiptet | Guda- pakasamakaram dnyanta tatra vinkshiptet |

Trikatu triphala mustam churnitam palasaptakam | Gokshuradi Guggul is very effective in pathogenesis of Madhumeha as well as in prevention of its complications.

References

[Tatata pin-dikrutasyasaaya gujikamupayojayet] |

[Hanyat Prameham kruchcham cha pradaram Motraghatakam | Vipachet |

[Trikatu triphalatulyam guggulum cha samamshakam | Gokshuradi Guggul is very effective in pathogenesis of Madhumeha as well as in prevention of its complications.

“Trikatutrippalatulyam guggulum cha samamshakam | Gokshurakwathsmyuktam gujikam karayed budhah ||

[Sharangadh samhita/Madhya khand/7…pg. no. 206] (Tripathi, 2010)

“Trikatu triphalatulyam guggulum cha samamshakam | Gokshuradi Guggul is very effective in pathogenesis of Madhumeha as well as in prevention of its complications.

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[Sharangadh samhita/Madhya khand/7…pg. no. 206] (Tripathi, 2010)
Hetu (causative factors) –

• Krusha (Thin) & Durbala (Weak) Prameha
• Sthula (obese) & Balawana (Strong) Prameha

According to Samhanana (Body constituents) of a Diabetic

Apathyanimittaj Prameha can be further classified as-

• Apathyanimittaj (Acquired) Prameha
• Sahaj (Hereditary) Prameha

Types of Madhumeha- (Upadhyaya, 2005)

tika’ type of Prameha.

‘Madhumeha’ has been classified and described under ‘Vataja Prameha, 6 sub-types of Pittaja Prameha and 4 sub-types of Vataja Prameha. Prameha has been further classified as 10 sub-types of Kaphaja Prameha.

According to urine colour morbidity, main three types of Madhumeha (Diabetic Mellitus). It is incurable.

One who passes urine as Kashay (astringent), Madhur (sweet), Pandu (pale) and Ruksha (rough) is diagnosed as a case of Madhumeha (Diabetic Mellitus). The disease is called as Prameha.

Definition- “Kashaya madhuram pandu ruksha mehati yo narah |”

Vatakopadasadhyam tam prateeyan Madhumehinam ||”

(Charka Nidanstan 4/44…pg. no. 552) (Kushwaha, 2009)

In Prameha, aggravated tridoshas vitiate Medovaha srotas (fat carrying channels) and ultimately vitiates its mulasthana (main origin) - ‘Vrukka’ (kidney) and leads to affliction of kidney physiology.

Classification of Prameha:-

According to 3 main constituents of body-

• Kaphaja Prameha
• Pittaja Prameha
• Vataja Prameha

“Mootravarnadibhedena bhedo Meheshu kalpyate ||”

(Madhav Nidan/Prameha/Uttarardha…pg. no. 1)(Upadhyaya, 2005)

According to urine colour morbidity, main three types of Prameha has been further classified as 10 sub-types of Kaphaja Prameha, 6 sub-types of Pittaja Prameha and 4 sub-types of Vataja Prameha.

‘Madhumeha’ has been classified and described under ‘Vatika’ type of Prameha.

Types of Madhumeha- (Upadhyaya, 2005)

• Dhatukshayaj (Dhatu waning)
• Doshavrutta (Dhatu covered by doshas)

According to Nidana (Etiological factors)

• Sahaj (Hereditary) Prameha
• Apathyanimittaj (Acquired) Prameha

Apathyanimittaj Prameha can be further classified as-

• Santarpanjanya (Satiating)
• Apatarpanjanya (Fasting or in sickness)

According to Samhanana (Body constituents) of a Diabetic patient-

• Sthula (obese) & Balawana (Strong) Prameha
• Krusha (Thin) & Durbala (Weak) Prameha

Hetu (causative factors) –

• Aasyasukham (comfortable sitting habits)
• Swapnasukham (excessive/faulty sleeping habits)
• Sheeta, snigdha, madhur, medya anna sevan (cold, unctuous, sweet, fatty food consumption)

• Dravaanna sevan, navaanna-pana sevan (liqituous, new-fresh food products and soft drinks consumption)
• Dugdha-guda vikruti sevan (milk, jaggary & their products consumption)
• Divaswap (nap during day time)
• Aavyayam (lack of exercise)
• Aalasya (lassitude)

Poorna-rupa (Prodromal features) -

• Hasta-pada tala daha-supti (burning sensation & numbness in hands & feet)
• Snigdhaganta-pichhilangata (oiliness & sliminess of body)
• Guru gatrata (heaviness in body)
• Tandra-atinidra (drowsiness-excessive sleeping)
• Sada-aalasaya (lethargy- lassitude)
• Talu-gala-jivha-danteshu malotpatti (Appearance of dirt in palate, throat, tongue and teeth)
• Durgandhita shwasa (halitosis)
• Mukha madhuryata (sweetness in mouth)
• Pipasa (excessive thirst)
• Swedadhiyaya (excessive sweating)
• Sheeta priyatva (fund of cold things)
• Kesha-nakhaati vruddhi (excessive growth of hairs and nails)
• Jatilibhava kesheshu (matting of hairs together)
• Visra sharir gandha (fleshy smell in body)
• Mootre cha mootradoshan (morbidities in urine)
• Shatpada pipilikabhishcha sharir-mootrabhisaran (crawling of bees & ants on the body & urine)

Rupa (signs & symptoms) -

• Prabhuta mootrata (excessive urination)
• Avila mootrata (turbid urine)

All poorna rupas of Prameha get aggravated as rupas.

Mootravaha Srotudoshti Lakshanas-

1) Vruddhi lakshana (symptoms due to excess accumulation)

• Basti nistoda (bladder pain, aadhman (flatus)
• Krute apiakruta sadnyata (frequent urge for micturition)
• Mootra vrudh (Increase in quantity of urine)
• Muhurmuho mootra pravrutti (dribbling micturition)

2) Kshaya lakshana (symptoms due to waning)

• Mootrakruchha (dysuria)
• Mootravairvarya (abnormal colours in urine eg. turbid, reddish etc.)
• Sasra mootra pravrutti (haematuriya)
• Basti nistoda (bladder pain)
• Pipasa, mukha parishushyata (excessive thirst & dryness of mouth)
• Alpa mootrata (decrease in quantity of urine)

3) Dushti lakshana (symptoms due to vitiation)

• Atisrasha-atibaddha mootra pravrutti ( urine incontinence/retention)
• Prakupita-bahal mootra pravrutti (Polyuria)
• Sasho-ha-sadaha-alpalpabhishkanam mootra pravrutti (painful-burning micturition, frequency of micturition)

Samprapti (Pathogenesis)-

“Bahvabadham medo mamsam shareerajakledah shukraam shonitam
vasa majaa lasika rasashchoujhas hankhynat iti dushyavisheshaha |

(Charka Nidanstan 4/7…pg. no.547) (Kushwaha, 2009)

“Medashcha mamsam cha shareerajam cha kledam kapho bastigata pradushya |”
Karoti Mehan samudeernamushnaistaneva pittam paridushya chaapi ||
Kshineshu dosheshvakrushya dhutun sandushya Mehan ku-
rute anilashcha ||
(Madhav Nidan/Prameha/2-3/Uttarardha…pg. no.3) (Upad-
yaya, 2005)

"Tasya chaiva pravruttasyaaparipakwa eva vatapittashlesh-
mano yada medasa
Sahakatwamupetya Mootravahi srotamsi anusrutaadho
gatwa
Bastermukhamashrityanirbhiddyante tada Pramehan janay-
tant||"
(Sushrut Nidansthan 6/4…pg. no. 502) (Sharma, 2010)

"Mootravarnadibhedena bhedo Meheshu kalpyate |
(Madhav Nidan/ Prameha…pg. no.22) (Upadhyaya, 2005)

"Kalenopekshitaah sarve yaddyanti madhumehataam |
(Ashtanga Hridaya Nidansthan 10/20…pg. no. 504) (Kunte &
Shastrinavre, 2012)

Due to ignorance, all types of Prameha get converted into
Madhumeha.

Diabetic Nephropathy-
Definition-
It is defined as microalbuminuria greater than or equal to
20mg/L. It is a progressive kidney disease caused by an-
giopathy of capillaries in kidney glomeruli. It is one of the
microvascular complications of D.M. and is a prime indication
for dialysis in many Western countries.

Risk factors- (Shah, 2012) (Mohan, 2005)
• Long standing Diabetes Mellitus
• Persistent Hyperglycemia
• Hypertension
• Hyperlipidemia
• Previous H/O MI
• Male gender
• Age (usually above 50 yrs in type 2 diabetic patients)
• Obesity, over weight

Smoking, tobacco
• Familial H/O hypertension or Diabetic Nephropathy
• Lack of physical activity
• Stress & occupation
• Ethnicity (eg. Pima Indians, South Asians etc.)
• Microalbuminuria ≥20 mg/L
• BUL > 40 mg %
• Sr. creatinine > 1.4 mg %

Signs & symptoms- (Shah, 2012) (Mohan, 2005)
• Increased blood pressure
• Initially Periorbital swelling, later general body swelling
• Unintentional weight gain(due to fluid accumulation) or
sometimes weight loss
• Foamy appearance of urine (due to proteinuria)
• Urine incontinence/retention
• Burning micturition
• Nausea, vomiting, anorexia
• Malaise, fatigue, weakness, nervousness
• Headache (specially in morning)
• Blurred vision
• Postural giddiness, resting palpitation, excessive sweating
• Trouble sleeping

Pathogenesis of D.M. (Mohan, 2005):

Pathogenesis of Diabetic Nephropathy:

Gokshuradi Guggul :-   (Tripathi, 2010)

Contents: - Gokshur – 28 Pala = 112 Tola = 1120 grams
Purified Guggul – 7 Pala = 28 Tola = 280 grams
Triphala – 3 pala (each dravya- 1 Pala) = 12 Tola = 120 grams
Trikatu – 3 Pala (each dravya- 1 Pala) = 12 Tola = 120 grams
Musta – 1 Pala = 1 Tola = 10 grams

Table No. 1
Action of Gokshuradi Guggul (Phadke, 1960)(Chunekar,
<table>
<thead>
<tr>
<th>Dravya with Latin Name</th>
<th>Rasa (Taste)</th>
<th>Vrivy (Active Potency)</th>
<th>Viriya (Macroscopic Characteristic)</th>
<th>Vipak (Metabolic Property)</th>
<th>Guna (Features/characteristics)</th>
<th>Karmakara (Action)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Gokshur (Tribulus terrestris)</td>
<td>Madhur</td>
<td>Sheeta</td>
<td>Madhur</td>
<td>Guru (heavy), Snigdha, Sheeta, Dipan (aperitif), Balya, Rasayana</td>
<td>Vata- Pittagahna, Bashti Shodhan, Rasadhatu vardhan</td>
<td>Increasing rasa dhata, Useful in all disease of Mootravaha srotas.</td>
</tr>
<tr>
<td>2) Guggul (Commiphora mukul)</td>
<td>Tikta (bitter), Katu (pungent), Kashaya (astringent)</td>
<td>Ushna (hot)</td>
<td>Katu</td>
<td>Laghu (light), Ruksha, Shara (easily movable), Vishad (clean), Tikshna (strong), Sukshma (fine), Lekhan, Rasayana</td>
<td>-Trioshaghnna</td>
<td>-Acts on all 7 Dhatus, specially Medogahna.</td>
</tr>
<tr>
<td>3) Triphala</td>
<td>Pancharasa (Except Lavan Rasa)</td>
<td>Anusha (neither cold nor hot)</td>
<td>Madhur</td>
<td>Dipan, Sara, Rochak (pleasant)</td>
<td>Meha-kushtha</td>
<td>Nashak (corrects Diabetes - skin diseases)</td>
</tr>
<tr>
<td>4) Shunthi (Zingiber officinalis)</td>
<td>Katu</td>
<td>Ushna</td>
<td>Madhur</td>
<td>Laghu, Vata-Kaphaghnna, Pitta Shamak (palitative), Agni-dipan, Amapachan, Vrushya (aphrodisiac), Grahi (holding capacity)</td>
<td>-Corrects srotos - rodha (obstruction) in madhumeha</td>
<td>-Increases dhatvagni &amp; corrects Dhatu Shahtihya in madhumeha -Useful in pathogenesis of Madhumeha</td>
</tr>
<tr>
<td>5) Marich (Piper nigrum)</td>
<td>Katu</td>
<td>Ushna</td>
<td>Katu</td>
<td>Laghu, Tikshna, Ruksha, Dipan, Pramathi (agitating), Vata-Kaphaghnna, Lekhan</td>
<td>Eliminates vitiated doshas from srotas by Pramathi effect</td>
<td>Improves kidney functions by tikshna guna</td>
</tr>
<tr>
<td>6) Pipali (Piper longum)</td>
<td>Katu</td>
<td>Anushana</td>
<td>Madhur</td>
<td>Laghu, Snigdha, Tikshna, Rasayan, Vrushya, Vata-Kaphaghnna, Yogavahi (carrying and increasing effects of a drug), Dipan</td>
<td>-Useful in Mootra vikara (diseases)</td>
<td>-It is srotorodha nashak thus corrects Srotos vyidhanda (covering). -It mainly acts on Raktavaha srotas (blood carrying channel) &amp; due to shothaghnna (removing swelling), it corrects odeema in Diabetic Nephropathy. -Due to rasayan, vrushya effects, it corrects gokshaya.</td>
</tr>
</tbody>
</table>

**Discussion:**

Gokshuradi Guggul is commonly used medicine in diseases of Mootravaha srotas & specially indicated in Prameha. It has Rasayana, Balya, Rakta-Prasadak, Bashti-Shodhak, Kledaghnna, Medoghna, Meahgna, Tridoshaghnna, Shothaghnna & Lekhan properties. It acts by two ways in Madhumeha. Firstly it acts on pathogenesis of Madhumeha that takes place in the body by Kledaghnna, medoghna, tridoshaghnna effects. Secondly it has Mootravaha Srotodushthinashak, rasayana, balya, rakta prasadak, lekhan, shothaghnna properties & thus it is also very useful after development of disease to prevent various complications like diabetic nephropathy. Lekhan property (scraping) is useful in removing any blockage in micro vessels as well as macro vessels. Thus, it corrects srotorodha in Mootravaha as well as Medovaha srotas in madhumeha caused due to vitiated kaphadi doshas. Above all properties of Gokshuradi Guggul improves nourishment & maintains potency of moothravaha srotas & improves resistance of kidney tissues against any adversity & thus helps in repairing & preventing damage to kidney vasculatures & tissues.

**Role of Gokshuradi guggul in Mootravaha Srotodushti in Madhumeha:-**

**Conclusion:** Administration of Gokshuradi Guggul is very useful in diabetic patients suffering from Nephropathy by improving renal functions and avoiding damage to kidney vasculatures & tissues and may bring new hope in such patients who usually face chronic renal failure & ultimately to death.

**Scope for future study:**

Gokshuradi guggul is useful in all diseases of Mootravaha srotas including Diabetic Nephropathy. Thus, further studies can be executed by focusing on effects of Gokshuradi Guggul on various diseases related to Nephrology including clinical trials.
REFERENCE