



Diabetes Mellitus, its Complications & Homoeopathy

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ABSTRACT-

Most of the disease's morbidity and death are caused by complications connected to diabetes, which have an impact on numerous organ systems. Type 1 and type 2 diabetes both have similar consequences, which can be classified as vascular or nonvascular. The consequences arising from diabetes mellitus can be further classified as macrovascular (such as cerebrovascular disease, peripheral artery disease [PAD], and CHD) and microvascular (retinopathy, neuropathy, and nephropathy). Macroscopic problems contain pathophysiologic characteristics that are both particular to diabetes and shared with the general population, whereas microvascular issues are diabetes specific. Infections, skin alterations, and hearing loss are examples of nonvascular consequences. 2 DM may raise the risk of dementia and cognitive decline, according to certain research. ⁽¹⁾ A unique branch of medicine known as homoeopathy emphasises the individuality and clinical similarity of each patient. It addresses a man's disease as a distinct entity.

KEYWORDS- Homoeopathy, Diabetes mellitus, Neuropathy, Hyperglycaemia, Albuminuria

INTRODUCTION-

Diabetes mellitus, a chronic metabolic disease marked by high blood glucose levels, has become a global epidemic that affects millions of people worldwide. ⁽²⁾

DIABETES-RELATED COMPLICATIONS ⁽¹⁾

1. MICROVASCULAR

a. Eye disease

- Retinopathy (nonproliferative/proliferative)
- Macular edema

b. Neuropathy

- Sensory and motor (mono- and polyneuropathy)
- Autonomic

c. Nephropathy (albuminuria and declining renal function)

2. MACROVASCULAR

- Coronary heart disease

- Peripheral arterial disease
- Cerebrovascular disease

3. **OTHER**

- Gastrointestinal (gastroparesis, diarrhea)
- Genitourinary (uropathy/sexual dysfunction)
- Dermatologic
- Infectious
- Cataracts
- Glaucoma
- Cheiroarthropathy (Thickened skin and reduced joint mobility.)
- Periodontal disease
- Hearing loss
- Other comorbid conditions associated with diabetes (relationship to hyperglycemia is uncertain): depression, obstructive sleep apnea, fatty liver disease, hip fracture, osteoporosis (in type 1 diabetes), cognitive impairment or dementia, low testosterone in men.

ETIOLOGY

1. **COMPLICATIONS AND GLYCEMIC CONTROL –**

Chronic hyperglycaemia is the cause of the microvascular problems in both type 1 and type 2 diabetes. There is little evidence to draw firm conclusions about the role chronic hyperglycaemia plays in the emergence of macrovascular problems. In patients with type 2 diabetes, the risk of CHD events and mortality is two to four times higher. Fasting and postprandial plasma glucose levels, as well as haemoglobin A1c (HbA1c), are correlated with these outcomes. Important roles are also played by other variables like hypertension and dyslipidaemia in macrovascular complications. ⁽¹⁾

2. **COMPLICATIONS OF OPHTHALMOLOGY IN DIABETES MELLITUS-**

A person's chance of going blind is 25 times higher if they have diabetes than if they do not. Major macular oedema and the development of new blood vessels are the main outcomes of progressive diabetic retinopathy, which causes severe vision loss. Non proliferative and proliferative stages are the two categories into which diabetic retinopathy falls. Retinal ischemia can result from several pathophysiologic causes associated with non-proliferative retinopathy, including aberrant microvasculature, increased retinal vascular permeability, changes in retinal blood flow, and loss of retinal pericytes. The characteristic feature of proliferative diabetic retinopathy is the emergence of neovascularization in response to retinal hypoxia. These recently developed vessels can be seen close to the macula and/or optic nerve. They are prone to rupturing, which can result in vitreous haemorrhage, fibrosis, and eventually retinal detachment. While proliferative retinopathy does not always emerge from non-proliferative retinopathy, it is more likely to do so within five years in cases of non-proliferative retinopathy that are more severe. ⁽¹⁾

3. **RENAL COMPLICATIONS OF DIABETES MELLITUS-**

The most common cause of end-stage renal disease (ESRD), chronic kidney disease (CKD), and CKD needing renal replacement therapy is diabetic nephropathy. Moreover, dialysis patients with diabetes have a dismal prognosis. A higher risk of cardiovascular disease is linked to albuminuria in those with diabetes mellitus. Diabetic nephropathy has a similar pathophysiology to other microvascular complications: persistent hyperglycaemia. ⁽¹⁾

4. **NEUROPATHY AND DIABETES MELLITUS –**

Neuropathy development is correlated with the length of diabetes and glycaemic management, like other consequences of diabetes. Other risk factors include smoking and body mass index (BMI), where a higher BMI is associated with a higher incidence of neuropathy. Diabetic peripheral neuropathy is also linked to the existence of hypertension, increased triglycerides, and CVD. There is a loss of both myelinated and unmyelinated nerve fibres. ⁽¹⁾

5. **GASTROINTESTINAL/GENITOURINARY DYSFUNCTION –**

The GI and genitourinary systems' motility and functionality may be impacted by long-term type 1 and type 2 diabetes. The two most common gastrointestinal symptoms are impaired small- and large-bowel motility (constipation or diarrhoea) and delayed stomach emptying (gastroparesis). Anorexia symptoms, nausea, vomiting, early satiety, and bloating in the abdomen can all be signs of gastroparesis. ⁽¹⁾

6. **MORTALITY AND CARDIOVASCULAR MORBIDITY –**

When a person with diabetes has coronary artery disease (MI) or both, their prognosis is worse than that of a person without diabetes. DM patients are more likely to get multiple vessel involvement from CHD. DM patients have an elevated risk of cerebrovascular illness in addition to CHD (triple risk of stroke). Thus, type 2 diabetes doubles the risk of cardiovascular death in men and quadruples it in women after adjusting for all known cardiovascular risk factors. Long-term type 2 diabetes often results in congestive heart failure (CHF). The synergism of hyperglycaemia with other cardiovascular risk factors, such as dyslipidaemia (elevated triglycerides, low HDL cholesterol, and small-dense LDL), hypertension, obesity, decreased physical activity, and cigarette smoking, appears to be related to the rise in cardiovascular morbidity and mortality rates in diabetes. A few risk factors include endothelial dysfunction, elevated inflammatory markers, aberrant platelet function, decreased GFR, and chronic kidney disease (CKD).⁽¹⁾

7. LOWER EXTREMITY COMPLICATIONS –

The combination of multiple pathogenic factors—neuropathy, aberrant foot biomechanics, PAD, and poor wound healing—explains the higher occurrence of these illnesses in diabetic patients. Because of the peripheral sensory neuropathy, the patient is unable to use their typical defences, which makes it possible for them to injure their foot repeatedly or severely—often without realising it. Imbalanced weight bearing during walking results from dysproprioception, which leads to callus or ulceration development. Foot structural abnormalities (hammer toe, claw toe deformity, large metatarsal heads, Charcot joint) and aberrant foot muscle mechanics are caused by motor and sensory neuropathy. Anhidrosis and altered superficial blood flow in the foot are caused by autonomic neuropathy, which causes the skin to dry up and wrinkles to appear. Many people with type 2 diabetes eventually have a foot ulcer (most commonly in the great toe or metatarsophalangeal areas), and a sizable portion of those who do will eventually require amputation (14–24% risk with that ulcer or future ulceration).⁽¹⁾

8. INFECTIONS –

DM patients experience infections more frequently and with greater severity. This is due to a combination of decreased vascularization and poorly understood anomalies in phagocyte and cell-mediated immunity linked to hyperglycaemia. Several different organisms, including *Candida* and other fungal species, benefit from hyperglycaemia in their colonisation and proliferation.⁽¹⁾

9. DERMATOLOGIC MANIFESTATIONS –

Diabetics are more likely to get skin and soft tissue infections, pneumonia, and urinary tract infections.⁽¹⁾

MECHANISMS OF COMPLICATIONS

The major etiologic factor for diabetic complications is chronic hyperglycaemia; however, it is unclear what mechanism(s) causes such a wide range of cellular and organ dysfunction. An increasing body of research suggests that hyperglycaemia induces epigenetic modifications that impact gene expression within impacted cells. Additional theories suggest that long-term hyperglycaemia causes the production of advanced glycosylation end products (AGEs), such as pentosidine, glucosepane, and carboxymethyl lysine, which bind to cell surface receptors and cause nonenzymatic glycosylation of intra- and extracellular proteins. This process causes protein cross-linking, accelerates atherosclerosis, glomerular dysfunction, and endothelial dysfunction, and changes the composition of the extracellular matrix.⁽¹⁾

HOMOEOPATHIC MANAGEMENT

SYZYGIUM JAMBOLANUM

When a person has diabetes mellitus, this drug lowers the amount of sugar in their urine; the urine's specific gravity rises. Additionally, it helps with diabetic ulcers.⁽³⁾ Has the immediate impact of raising blood sugar levels, which leads to glycosuria. A very effective treatment for diabetes mellitus. Extreme thirst, frailty, and malnourishment. Urine with a high specific gravity and in large quantities; ulcers caused by diabetes.⁽⁴⁾

NATRIUM SULPHURICUM

Urine filled with hate. brisk-dust sediment. overproduction of secretions.diabetic disease.⁽⁴⁾

TEREBINTHINAE OLEUM

possesses a preference for bleeding mucosal surfaces. significant symptoms of tympanites and urine problems. renal inflammation with haemorrhages that are foetid, black, and passive. Dropsy preceded Bright's disease (Goullon). fatigue and stuttering. Coma. Complete chilblains.⁽⁴⁾

ANTHRACINUM

Black, thick, tar-like haemorrhages that deteriorate quickly can come from any opening. cellular tissues oedematous and indurated, glands enlarged. Sepsis. Sloughing, ulceration, and unbearable burning. Erysipelas. Blisters that are both blue and black. Cutting open wounds. Stings from insects. Adverse consequences of breathing in bad smells. Parotitis gangrenous. Sequence of boils. gangrene. unpleasant secretions.⁽⁴⁾

ARSENICUM BROMATUM

This preparation has a significant impact on several conditions, including herpes simplex eruptions, syphilitic excrescences, glandular tumours and indurations, cancer, locomotor ataxia, persistent intermittent, and diabetes.⁽⁴⁾

BORICUM ACIDUM

Because it stops fermentation and putrefaction, it is used as an antiseptic disinfectant. Urinary urgency and pain in the ureteric area. Icy saliva. ⁽⁴⁾

CARLSBAD AQUA

It is well-known for its effects on the liver and for treating gout, diabetes, and obesity. It is useful in homoeopathic potencies for constipation, severe susceptibility to colds, and weakening of all organs. Periodicity: After two to four weeks, the symptoms recur. Heat waves everywhere. Itching in several places. ⁽⁴⁾

CHIONANTHUS VIRGINICA

High specific gravity; large volume; frequent urination; urine containing sugar and bile. Dark urine is produced. ⁽⁴⁾

INULA HELENIUM

frequent urge to urinate; barely little drips pass through. Smells violet. Diabetes. ⁽⁴⁾

PHASEOLUS NANUS

Diabetic urine. sighing and taking leisurely breaths. Quick pulse. Palpitations. weak pulse and a sick feeling in the chest. My right ribs hurt. Droplet effusion into the pericardium or pleura. ⁽⁴⁾

RHUS AROMATICA

urine pale and high in albumin. Being incontinent. severe pain that children experience just before or at the start of urinating. dribbling continuously. Diabetes causes high volumes of low-specific-gravity urine. ⁽⁴⁾

CONCLUSION-

To find the best drug for treating a range of conditions, homoeopathic doctors employ individualization and repertorial analysis. Aphorism 270-Foot in the Organon of Medicine states that susceptibility dictates the proper potency in both the Fifth and Sixth Editions. ⁽⁵⁾

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