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Painful diabetic peripheral neuropathy- a current concepts review of clinical examination findings for use in patient selection for treatment and research

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ABSTRACT

(b) Abstract body: Diabetes is a global epidemic and one of the most leading complications of diabetes is peripheral neuropathy. Recent research and clinical practice focus is growing on symptomatic or painful diabetic peripheral neuropathy (PDPN) due to the rising healthcare costs and impending disability. The objective of this review is to elaborate the clinical examination findings in symptomatic PDPN patients. The various clinical examination methods reported in MEDLINE, EMBASE, SCOPUS, Ovid, CINAHL and Google Scholar were searched independently and 66 suitable trials were identified. The selected studies are grouped under each of the clinical examination findings and are described under chief complaints, presenting history, subjective examination, objective examination, investigations and differential diagnosis in the review. Through a thorough history and subjective examination, identification of possible mechanism of neuropathic pain in these patients would facilitate focused objective examination that can again be confirmed using investigations. A proposed clinical decision-making algorithm is presented after this review to base treatment decisions from clinical findings. The clinical examination findings explained in this review would facilitate clinicians, researchers and stakeholders to understand the complex clinical presentation of symptomatic patients with painful diabetic peripheral neuropathy, and to develop better assessment methods in the future for earlier identification of such patients to initiate further management.

Key words: symptoms and signs, diabetic neuropathy, neuropathic pain, assessment., (d)- Running title: Clinical examination findings in painful diabetic peripheral neuropathy

INTRODUCTION

The term diabetes mellitus describes a metabolic disorder of multiple aetiology characterized by chronic hyperglycaemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action, or both'. The prevalence of diabetes for all age-groups worldwide was estimated to be 2.8% in 2000 and 4.4% in 2030. The total number of people with diabetes is projected to rise from 171 million in 2000 to 366 million in 2030. The prevalence of diabetes is higher in men than women, but there are more women with diabetes than men. The urban population in developing countries is projected to double between 2000 and 2030. The microvascular complications of diabetes are termed collectively as "triopathy" which includes retinopathy, neuropathy and nephropathy and the

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