

Abstract

Type 3c Diabetes Mellitus in Adults: Oncologic Implications From a Scoping Review

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Introduction. New-onset diabetes in adults may represent an early manifestation of pancreatic cancer. Type 3c diabetes mellitus, which develops secondary to diseases of the exocrine pancreas, remains under-recognized and is frequently misclassified as type 2 diabetes. This diagnostic challenge may delay the identification of underlying pancreatic disease. This review aimed to map the available evidence on type 3c diabetes in adults across its principal clinical domains, with particular attention to oncologic implications.

Methods. A scoping review was conducted according to Joanna Briggs Institute methodology and reported following the PRISMA Extension for Scoping Reviews. PubMed/MEDLINE, Embase, CINAHL, Scopus, Web of Science, and PsycINFO were searched from inception to August 2025. Ninety-six eligible studies were included. The review protocol was deposited on Figshare.

Results. Pancreatic structural disease and cancer emerged as clinically relevant contexts for type 3c diabetes. Adults presenting with new-onset diabetes and unintended weight loss were consistently described as a high-risk group warranting diagnostic evaluation for pancreatic neoplasia. Post-pancreatectomy diabetes represented a distinct etiological pathway, with total pancreatectomy requiring lifelong insulin replacement and being associated with greater healthcare use. Pancreatic cancer was among the leading reported causes of death, while overall mortality was higher than in other diabetes types, particularly among individuals with advanced structural pancreatic disease. Some observational studies suggested a potentially protective association between metformin use and pancreatic carcinogenesis; however, the available evidence did not establish causality.

Discussion. Evidence concerning the oncologic implications of type 3c diabetes remains

predominantly descriptive and does not yet support standardized surveillance or pancreatic cancer screening pathways. Priorities include developing validated diagnostic algorithms combining metabolic and imaging parameters, improving the identification of high-risk patients with new-onset diabetes, and conducting prospective studies evaluating cancer-related outcomes in this population.

Keywords: Type 3c Diabetes, Pancreatogenic Diabetes, Chronic Pancreatitis, Exocrine Pancreatic Insufficiency, Glycaemic Variability, Scoping Review

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