Implementing a Clinical Pathway for the Management of Dyslipidemia with Statins in Youth with Type 1 Diabetes Mellitus

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Introduction

There is an increased prevalence of dyslipidemia in youth with type 1 diabetes (T1D).[1,2] The American Diabetes Association recommends pharmacologic treatment of dyslipidemia that remains above goal despite optimization of glycemic levels and nutrition,[3] but the use of statins in youth with T1D has been suboptimal.[4]

The purpose of this study was to implement a clinical pathway for the management of dyslipidemia with statins in pediatric clinical practice. Our aim was to standardize the use of statin therapy in youth who met dyslipidemia treatment criteria by 20% from baseline.

Methods

- A clinical pathway for the screening and management of dyslipidemia was implemented in the outpatient endocrinology clinical setting in June 2020 (Fig. 1).
- Charts of pediatric patients with T1D were reviewed using the diabetes database for: LDL level, nutrition referral and visit completion, initiation of statin therapy, and repeat LDL levels from June 2020 to June 2026.
- The **primary outcome assessed** was percentage of youth who met treatment criteria (LDL >160mg/dL or 130mg/dL +risk factor and age >9) who were started on statin therapy.
- We also assessed for patients achieving goal LDL, attending nutrition visits, and completing follow up labs.

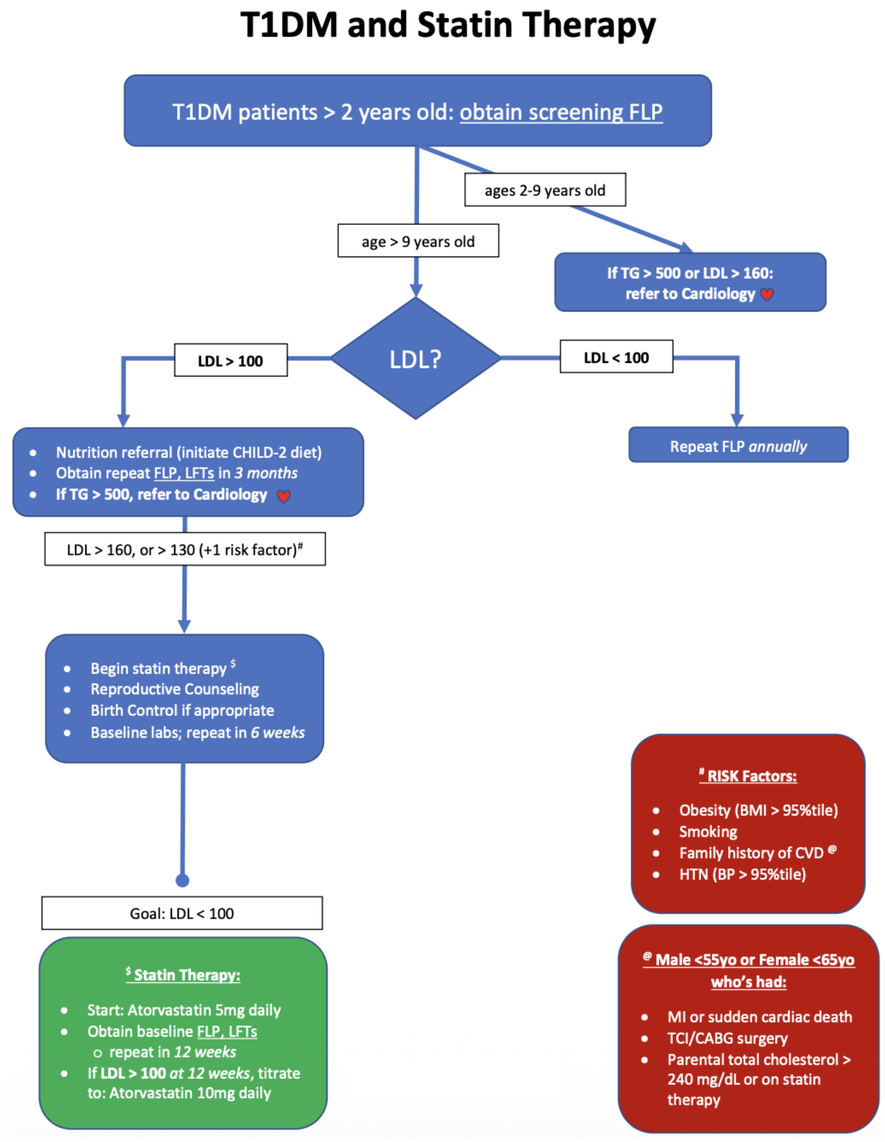


Figure 1: Clinical pathway for dyslipidemia screening, interventions, and initiation of statin therapy. *Key: Fasting lipid profile (FLP), low density lipoprotein (LDL), liver function tests (LFTs), triglycerides (TG)*

Results

Prior to pathway implementation in June 2020, statin therapy was initiated for **33%** (n=9) of patients who met treatment criteria (LDL > 160 or >130 plus 1 risk factor). Average initial LDL prior to treatment was 176mg/dL.

As of June 2026 (n=44):

- 84% had been referred to nutrition or attended nutrition appointment.
- Statin therapy was initiated for **74%** of youth who met treatment criteria.

There was improvement in LDL levels on statin therapy, but not all patients achieved goal LDL levels.

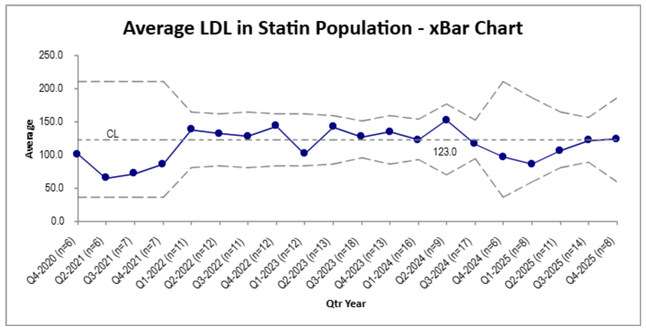


Figure 2: Average LDL trends in youth with T1D started on statin therapy following implementation of clinical pathway in June 2020.

Conclusion

- Implementation of a clinical pathway for statin use in youth with T1D and dyslipidemia was associated with increased initiation of statin therapy in the outpatient endocrinology clinical setting.
- There was improvement in identification of eligible patients and use of nutritional counseling.
- More work needs to be done to improve LDL to goal

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