

Evaluating the Utility of Glucagon-Like Peptide 1 Receptor Agonists in Potential Lung Transplant Candidates Requiring Weight Loss Prior to



Transplant

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Background

Body mass index (BMI) is one of the criteria used when evaluating patients for lung transplant candidacy. Per the International Society of Heart and Lung Transplantation, a BMI above 30 kg/m² is considered a relative contraindication for lung transplant, whereas a BMI above 35 kg/m² is considered an absolute contraindication.^{1,2} Many patients may require weight loss in order to be considered for transplant.

Glucagon-like peptide-1 receptor agonists (GLP-1 RA) semaglutide, liraglutide, dulaglutide, and tirzepatide that have traditionally been prescribed for type 2 diabetes have shown promising results for promoting weight loss.^{3,4} Their specific utility in the lung transplant population has not yet been established.

The purpose of this study is to evaluate the utility and safety of GLP-1 RAs in potential lung transplant candidates requiring weight loss to be considered for transplant.

Methods

This is a retrospective study conducted at Northwestern Medicine (NM) utilizing electronic medical records between May 2022 and October 2023. Inclusion criteria consisted of any patient undergoing lung transplant evaluation at NM with a BMI over 32 kg/m² and who also met with a lung transplant registered dietitian (RD) at least 2 times within the study period.

Data collected included primary diagnosis for transplant, weight and BMI trends, dates and frequency of dietitian follow up, achievement of desired weight goal (based on NM criteria of a BMI under 32kg/m²), hemoglobin A1c, weight loss medication usage, and barriers to medication initiation. In patients who were utilizing GLP-1 RAs, specific medication type, dose, duration, and reported side effects were recorded.

Results

Out of 61 patients who were evaluated in our RD-led weight management clinic, 42 patients met inclusion criteria. The mean BMI at initial consult was 36.34 kg/m². Of the patients included, 50% (n=21) utilized GLP-1 RAs. The mean percentage of body weight needed to be lost in the GLP-1 RA group was 12.4% vs 9.7% in the non GLP-1 RA group. In the GLP-1 RA group, 66.7% (n=14) of patients achieved their weight goal compared to 52.4% (n=11) in the non GLP-1 RA group. Of the patients that achieved their weight goals, the GLP-1 RA group lost an average of 11.8% of body weight compared to 5.0% in the non GLP-1 RA group (p=.002).

The most common side effect to weight loss medications was gastrointestinal distress. The biggest barrier to initiating GLP-1 medications was lack of insurance coverage and out-of-pocket costs.

Figure 1.

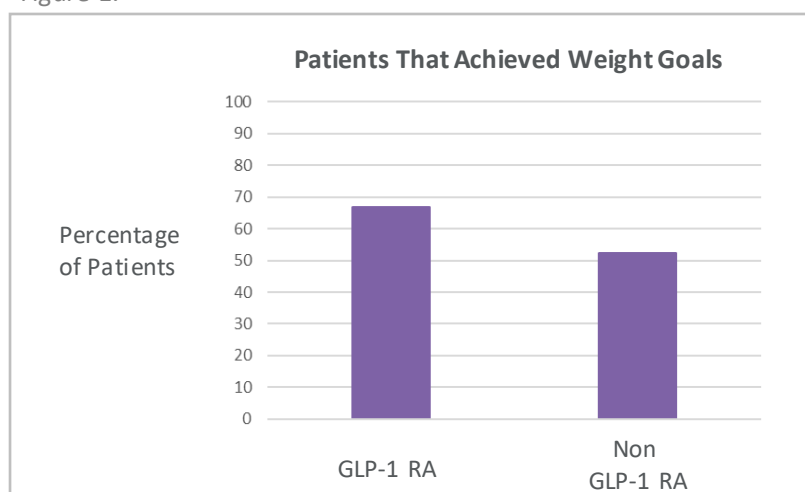
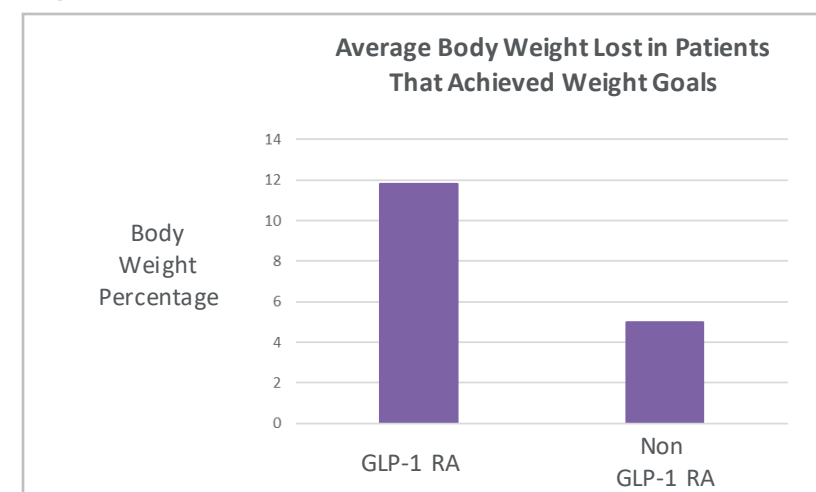


Figure 2.



Conclusions

The use of GLP-1 RAs may be useful for potential lung transplant candidates requiring weight loss for candidacy. Additional research with larger studies and prolonged follow-up periods comparing the safety and outcomes of patients using GLP-1 RAs is needed.

Our future research studies plan to look at the effects of GLP-1 RAs on body composition and compare outcomes after transplant between patients that utilized GLP-1 RAs versus traditional diet interventions for weight loss.

Reference

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