

ASSOCIATION OF CLINICAL MANIFESTATIONS OF SECONDARY LYMPHEDEMA AND LYMPH NODE DISSECTION SITES IN THE LOWER EXTREMITIES OF PATIENTS WITH MELANOMA

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Introduction

- Secondary lymphedema after lymph node dissection (LND) is a chronic and debilitating disease that often requires life-long management. Thus, predicting its clinical manifestation and prognosis is crucial in clinical practice.
- Sites of LND carry varying degrees of lymphedema risk. Different LND may also have various clinical manifestations and prognosis due to the anatomy of lymphatic drainage.

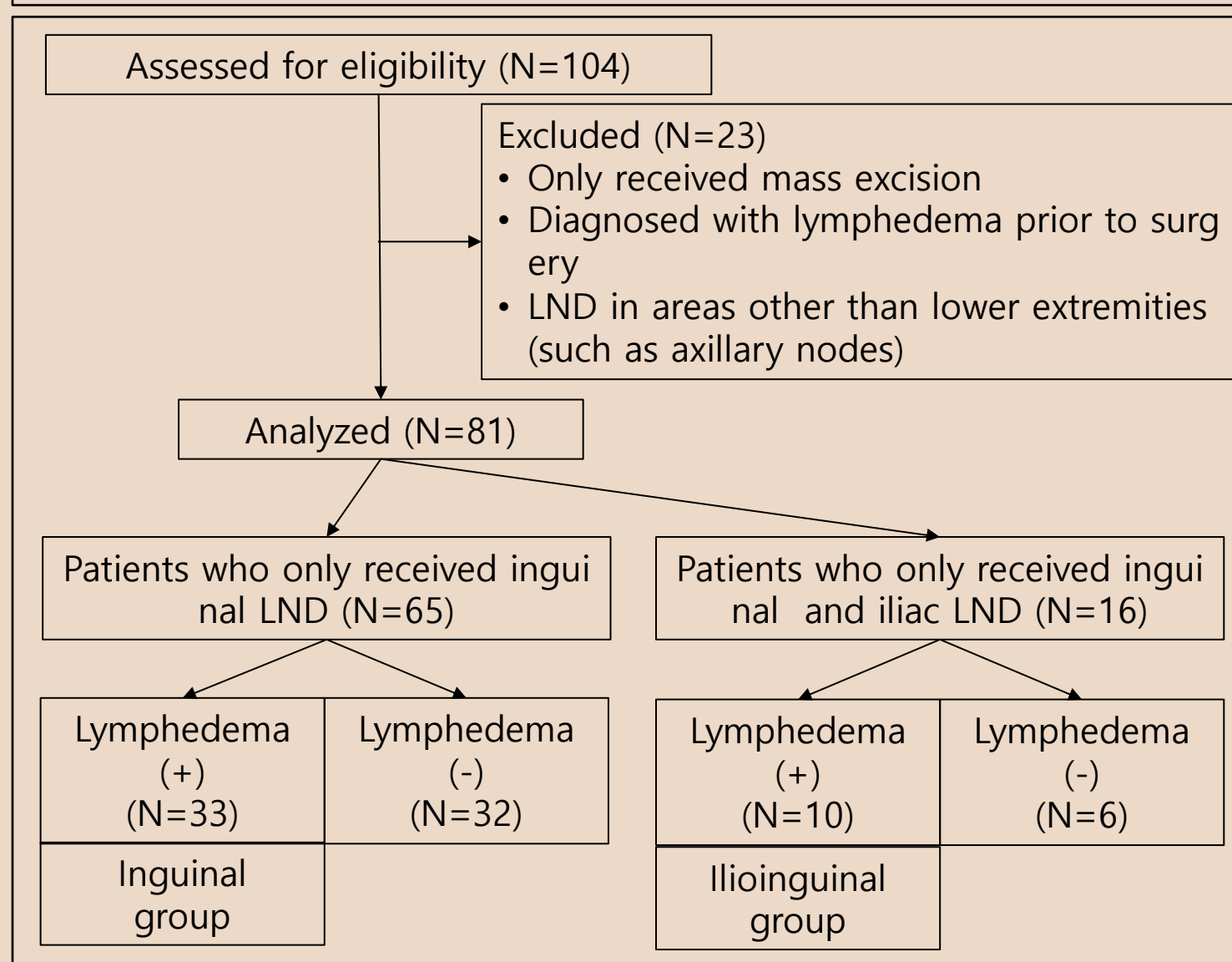
Purpose

- The aim of this study is to explore the clinical manifestations and prognosis of lymphedema secondary to inguinal and/or iliac LND in melanoma patients.

Methods

- A total of 81 melanoma patients who received LND at a single tertiary medical center were retrospectively reviewed. Clinical data including dissection site, number of nodes, adjuvant treatments, lymphedema sites/treatment, volumetric data of lymphedema was acquired for 12 to 15 months of follow-up.
- All patients after routine post-op care are referred to Cancer Rehab Clinic as a part of the center's clinical pathway.
- Percent difference of leg volume was calculated for analysis of volumetric measurements to account for individual leg volume discrepancy.
- 10% or more volume difference was considered as severe edema.

Figure 1. A flowchart depicting patient selection process and case categorization.



Results

Table 1. Description of melanoma patients who received LND.

Total number of patients	94
LND in lower extremities (inguinal or iliac LND, n)	81 (Male 49, Female 32)
Lower extremity lymphedema	43 (53%)
Mean duration to first visit after surgery	48 days (33 days ^a)

a. Mean duration after removing 3 patients (242, 203, 330 days) who paid a delayed visit to the clinic. All three patients reported that they had disregarded leg edema for several months.

Figure 2. A pie graph showing the incidences of lymphedema in patients who received inguinal LND only and those who received both inguinal and iliac LND.

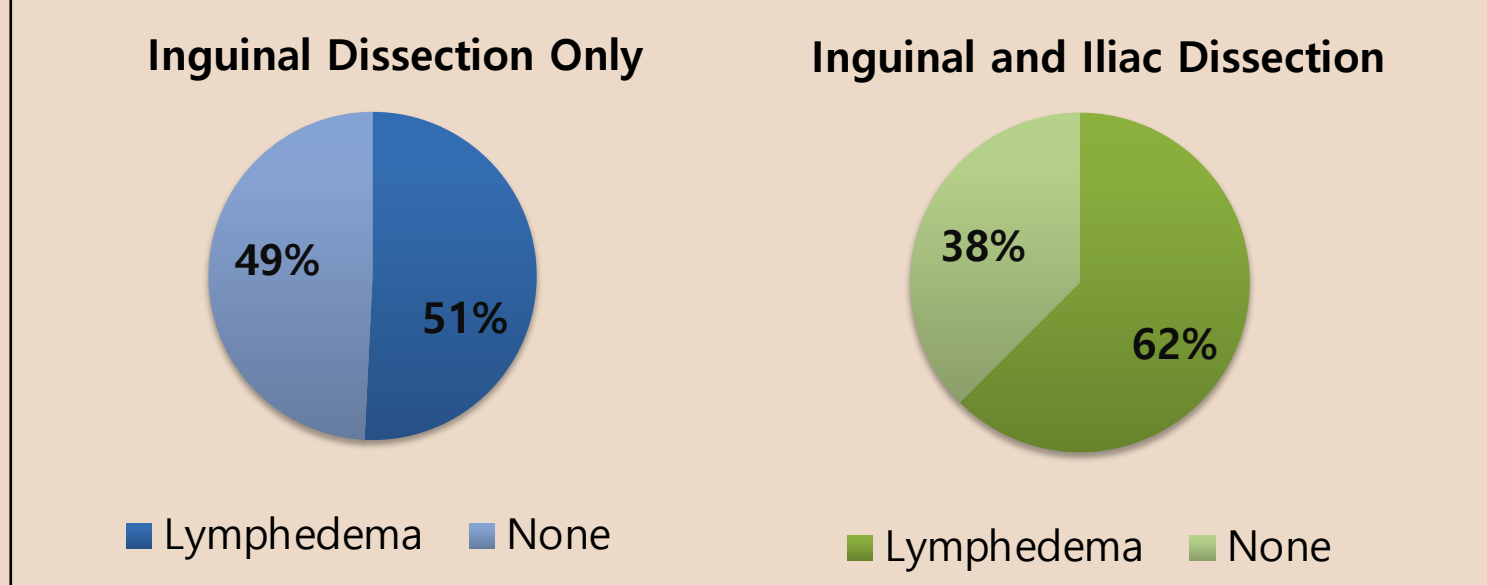


Figure 3. Clinical manifestations of lymphedema

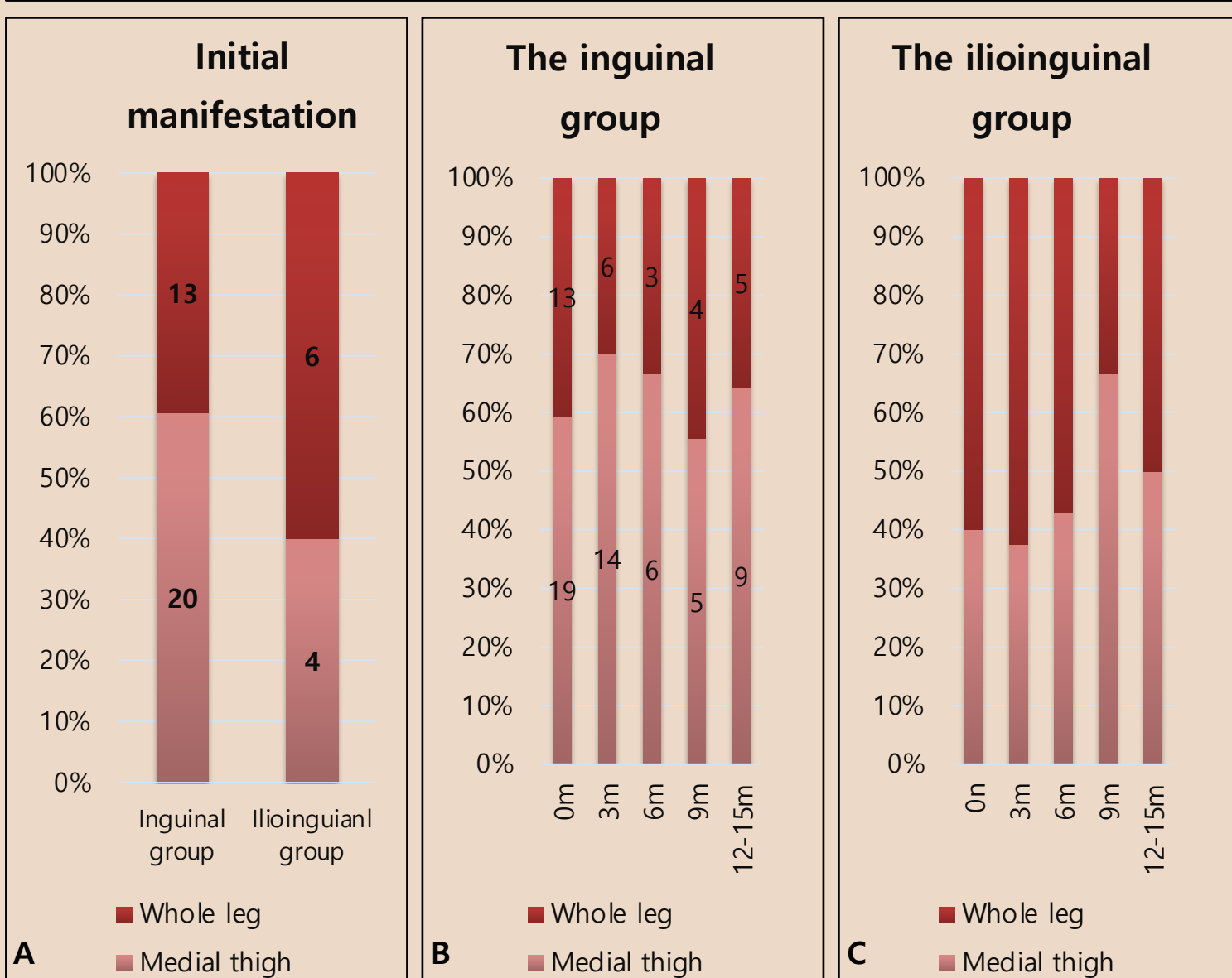


Figure 4. A linear graph presenting the trends of percent differences of the volume throughout follow-ups for both inguinal group and ilioinguinal group. Dashed line represents the inguinal group while solid line represents the ilioinguinal group. Asteroids signify statistically significant difference between two groups ($p < 0.05$). A) Whole leg volume. B) Lower leg volume. C) Upper leg volume.

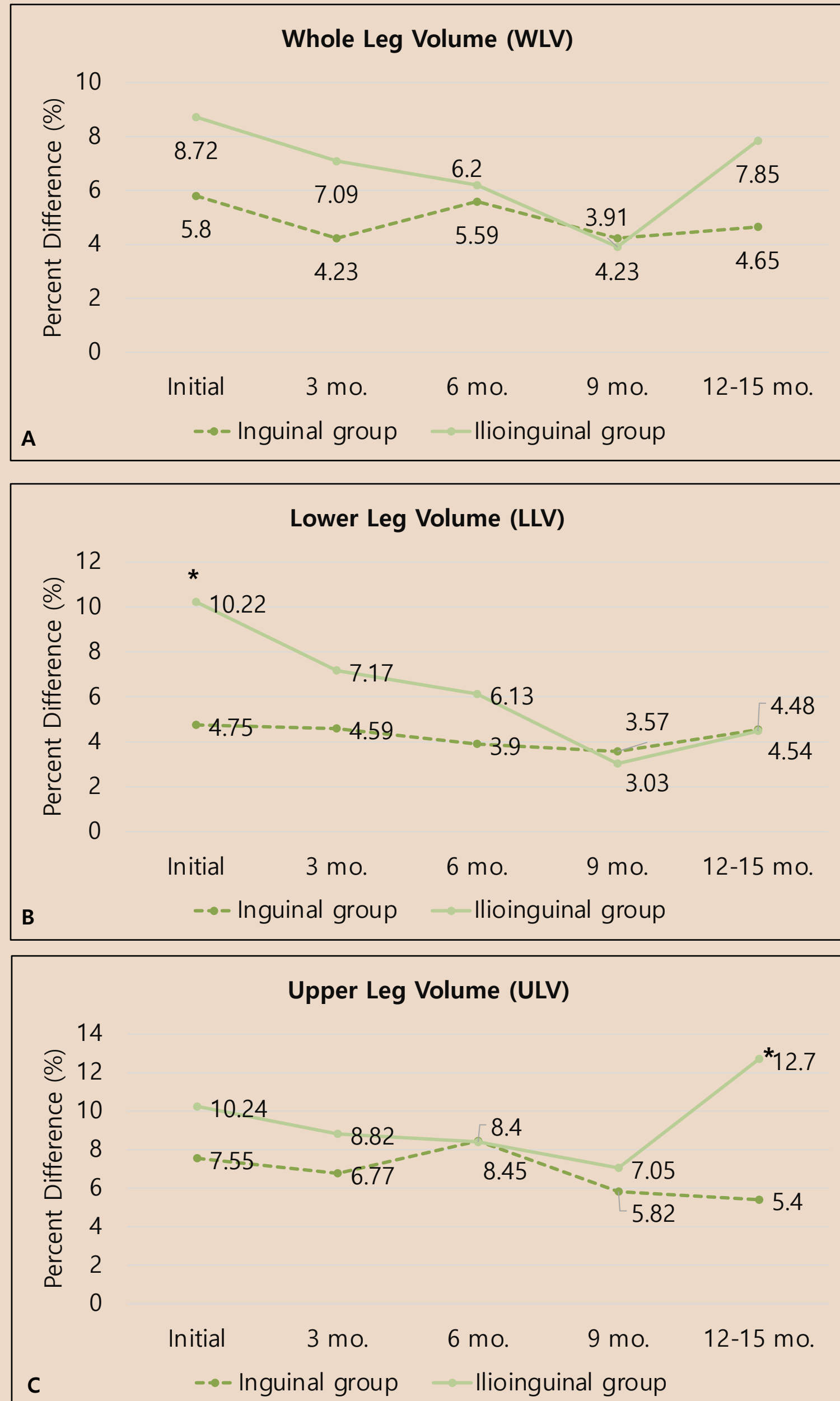
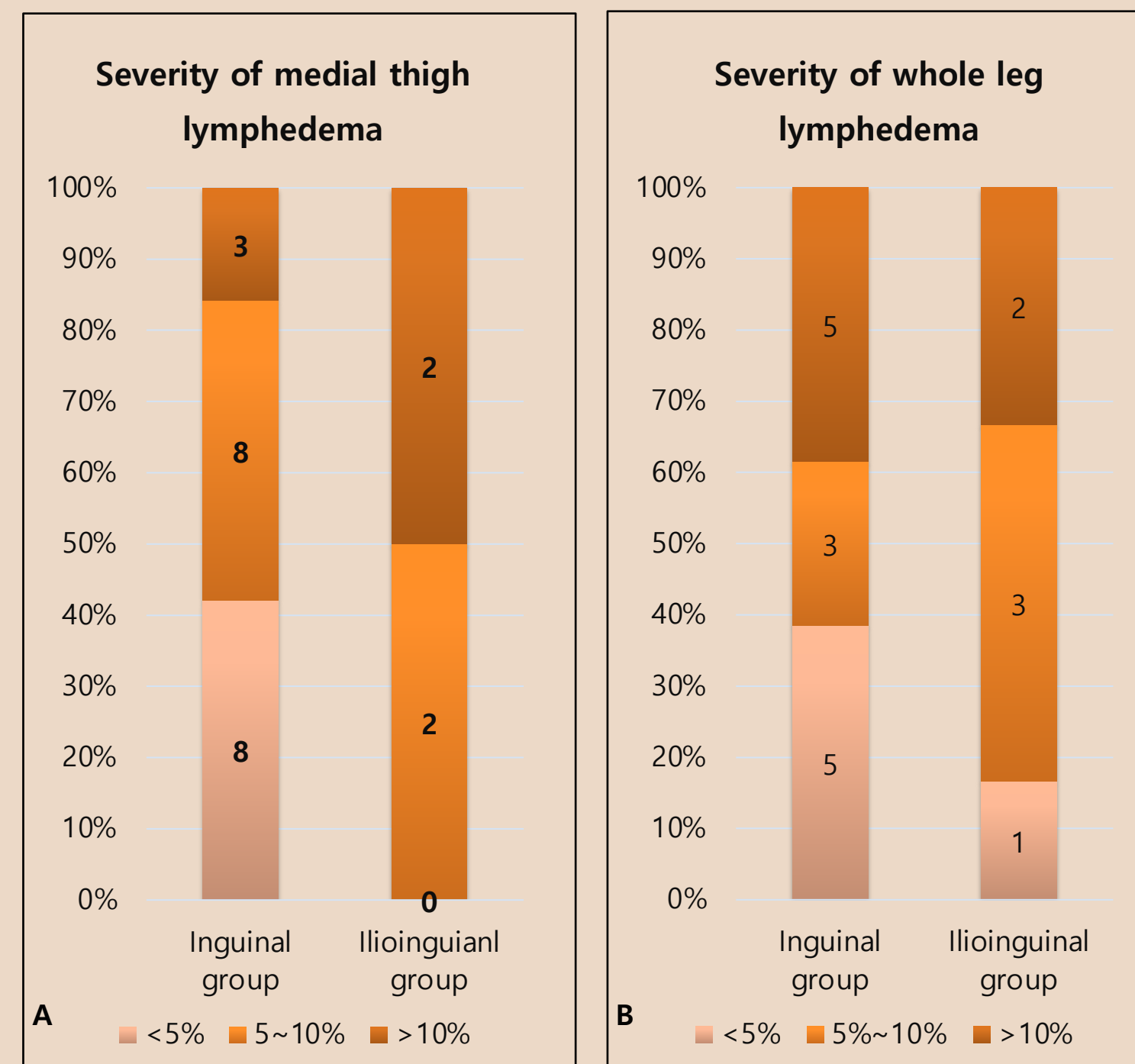


Figure 5. Severity of lymphedema



Conclusions

- Secondary lymphedema after LND developed in early post-op period, within a month on average.
- Iliac node dissection combined with inguinal LND for melanoma patients results in a rather different pattern of lower extremity lymphedema as compared to those who only received inguinal node dissection.
- After both iliac and inguinal node dissection, distal lymphedema occurs more severely, presenting as whole leg lymphedema.
- With appropriate treatment, lymphedema in lower leg area may respond well to conventional comprehensive decongestive therapies.
- However, lymphedema around the thigh region is more resistant to treatment compared to lymphedema that occurs after inguinal dissection only.
- Clinical manifestations and prognosis of lower extremity lymphedema can vary depending on LND patterns. Physicians should consider the LND site when approaching secondary lymphedema that occurs following LND in melanoma patients.