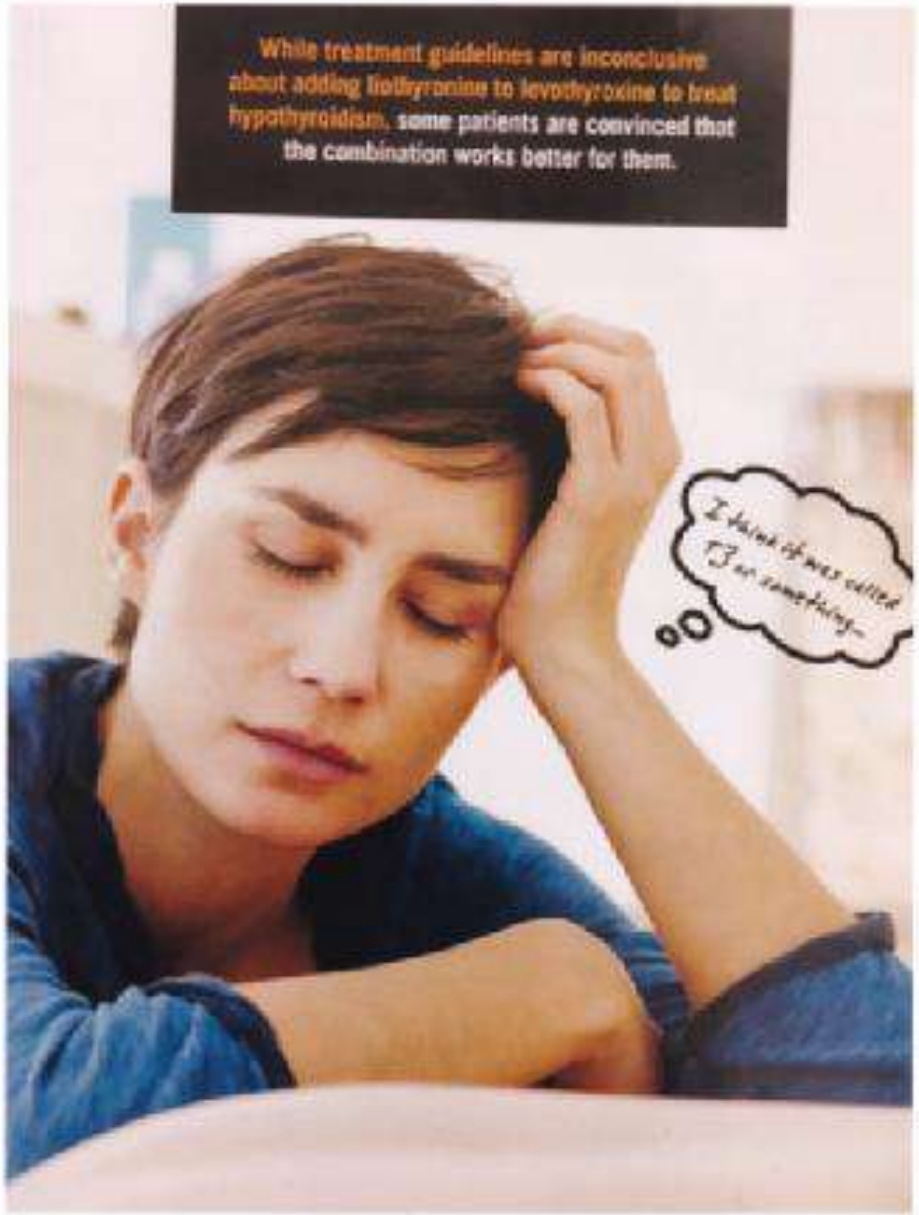

While treatment guidelines are inconclusive about adding liothyronine to levothyroxine to treat hypothyroidism, some patients are convinced that the combination works better for them.

BY ERIC SEABORG

A controversy continues

COMBINATION TREATMENT FOR HYPOTHYROIDISM

YOUR HYPOTHYROID PATIENT COMPLAINS THAT SHE STILL DOES NOT FEEL WELL DESPITE TAKING LEVOTHYROXINE (LT4).

She has been researching on the Internet and has read many accounts from patients in her situation who say that they feel much better when their doctors add another thyroid hormone "called T3 or something ..."

So, you have a dilemma. You have based her treatment on the American Thyroid Association (ATA) guideline that says that levothyroxine (LT4) is the standard treatment. And clinical trials have not found a benefit to adding liothyronine (LT3).

LT4 became the treatment of choice following the discovery that the thyroid primarily makes the prohormone thyroxine (T4), which thrums around the body's tissues into the active hormone, triiodothyronine (T3). T4 has a half life of a week or so, while T3's half life is less than a day. It has worked for most patients to take T4 and let the body do the conversion – except for some 5% to 10% of patients who say it doesn't work for them. Is there a problem in giving them LT3 as well?

Four thyroid experts interviewed by *Endocrine News* all called this combination therapy controversial — but not one of them would refuse to give it a try as an appropriate patient who requested it.

"It is true that levothyroxine has been used for decades and the overwhelming majority of patients are satisfied, but a significant minority are not satisfied," says Douglas S. Ross, MD, professor of medicine at Harvard Medical School and co-director of Thyroid Associates at Massachusetts General Hospital in Boston. "Why not attempt to restore normal blood levels with T4 and T3?"

Antonio C. Bianco, MD, PhD, professor of medicine and associate dean of clinical affairs at Rush University Medical Center in Chicago, IL

> "It is unquestionable that some patients will tell you that the day they were switched from levothyroxine to combination therapy, 'a light bulb went on in my brain,' or 'I can think again.' There has got to be something there."

Clinical Endocrinology Update (continued)

September 23-25, 2017

MONDAY, SEPTEMBER 25

7:45-7:55 AM	**Introduction** Janet A. Schaechter, MD
7:55-8:25 AM	**What's New in Primary Aldosteronism?** William F. Young, Jr., MD, MSc
8:25-8:55 AM	**Adrenal Fatigue is Not Adrenal Insufficiency** Lynnette K. Nieman, MD
8:55-9:25 AM	**Neuroendocrine Imaging** Richard J. Auchus, MD, PhD
9:25-9:40 AM	Q&A/Panel Discussion
9:40-9:55 AM	BREAK/EXHIBITS
9:55-10:40 AM	**Meet-the-Professor (MTP) Sessions, Round One** **13. Glucocorticoid Replacement Therapy** James W. Findling, MD **14. Endocrine Hypertension** William F. Young, Jr., MD, MSc **15. Thyroid Nodules: Diagnosis and Management** Susan J. Mandel, MD, MPH **16. Thyrotoxicosis: Different Treatment Options** David S. Cooper, MD
10:40-10:55 AM	BREAK/EXHIBITS
10:55-11:30 AM	**Molecular Markers for Thyroid Nodules and Cancer: Implications on Surgical Management and Follow-Up** Electron Kebebew, MD
11:30-11:50 AM	**Subclinical Thyroid Disorders: Indications for Treatment** Anne R. Cappola, MD, ScM
11:50 AM-12:05 PM	Q&A/Panel Discussion
12:05-1:20 PM	LUNCH/EXHIBITS
1:20-2:05 PM	**MTP Sessions, Round Two**
2:05-2:10 PM	TRANSIT TIME
2:10-2:40 PM	**Thyroid Disorders During Pregnancy** Susan J. Mandel, MD, MPH
2:40-3:10 PM	**Combination T4 and T3 Therapy in Patient with Hypothyroidism** Douglas S. Ross, MD
3:10-3:25 PM	Q&A/Panel Discussion
3:25-3:30 PM	**Closing** Janet A. Schaechter, MD

THURSDAY, MAY 15

T32: Sports and Nutrition: Where Is the Science?

MODERATOR:
EDWARD S. HORTON, MD

SPEAKER:
STELLA LUCIA VOLPE, MD

Room: Bronze 1/2 – Bally's
CME Code: 8484

T52: Obesity Is a Disease: AACE Guidelines for Surgical Intervention

MODERATOR:
SUNIL J. WIMALAWANSA, MD

SPEAKER:
DANIEL L. HURLEY, MD

Room: Bronze 4 – Bally's
CME Code: 3653

T62: Combination T4/T3 Therapy: Dr. Google or Dr. Welby?

MODERATOR:
W. REID LITCHFIELD, MD

SPEAKER POINT:
ANTONIO BIANCO, MD

SPEAKER COUNTERPOINT:
MICHAEL MCDERMOTT, MD

Room: Silver – Bally's
CME Code: 2300

Fani D.Amir / Shutterstock.com

ENDOCRINOLOGY IN THE NEWS

But basing treatment on patients' preferences may not lead to the b
outcomes. "T3 has also been used by psychiatrists as adjunctive therapy
depression, so part of this feeling better issue may have to do with the effe
of giving too much thyroid hormone," Russ says. "If you give people a lit
bit too much T4, in general they feel better. Their mental health is better, h
their physical health is a little bit impaired. They will complain that they are
sleeping as well, but they feel better overall and they are less depressed. It m
people [who] get slightly hyperthyroid overall feel better."

目的と方法

甲状腺機能低下症の治療は以前は乾燥甲状腺末（甲末）であり、チロキシン(T4)とトリヨードチロニン(T3)の混合する薬剤であった。

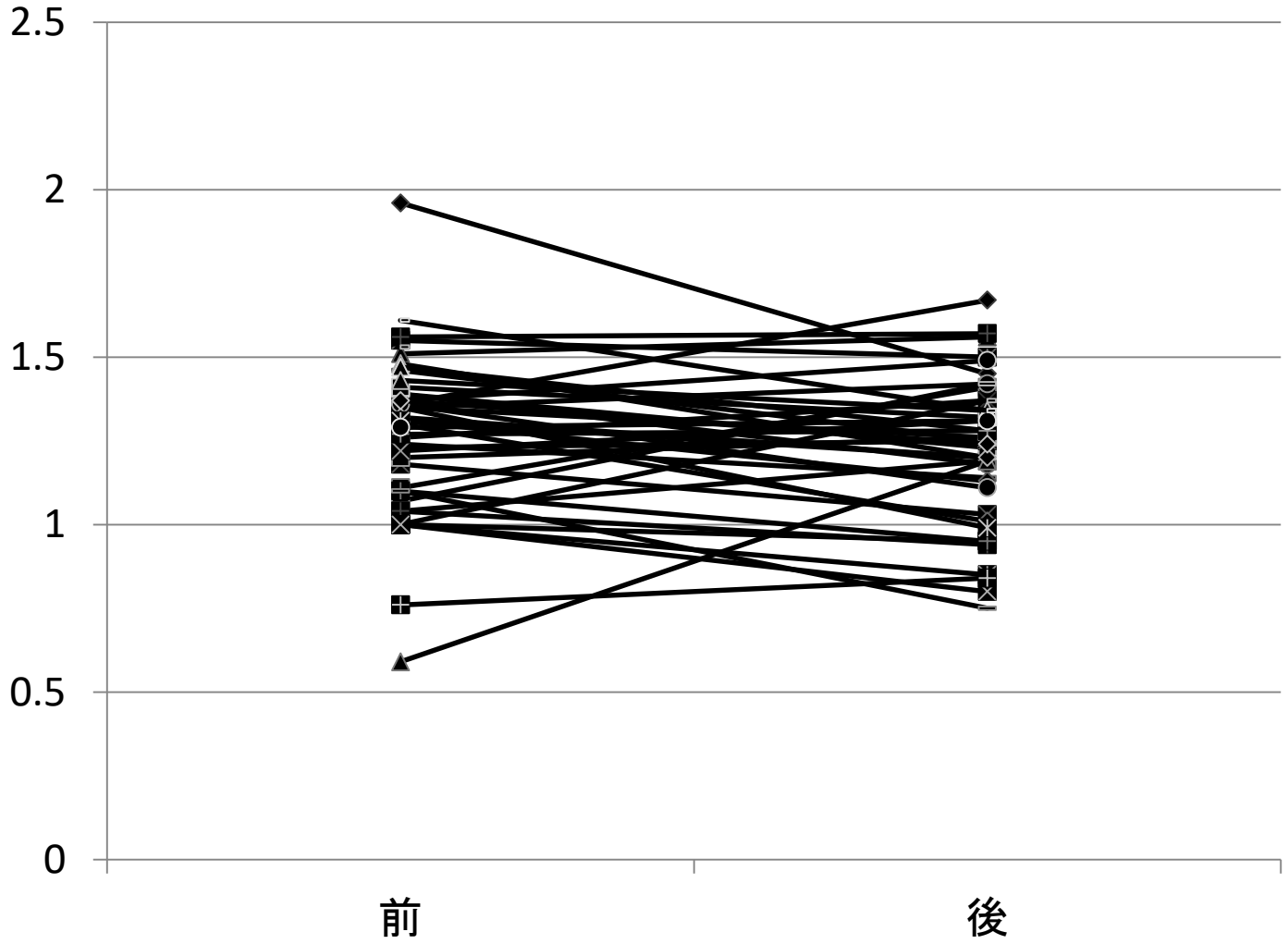
しかし1980年頃から合成T4剤 (L-T4)が急速に普及し、現在甲末は製造されていない。

しかしながら過去に、甲末からL-T4に変更すると不調を訴え甲末に戻すと改善する患者を少なからず経験していた。

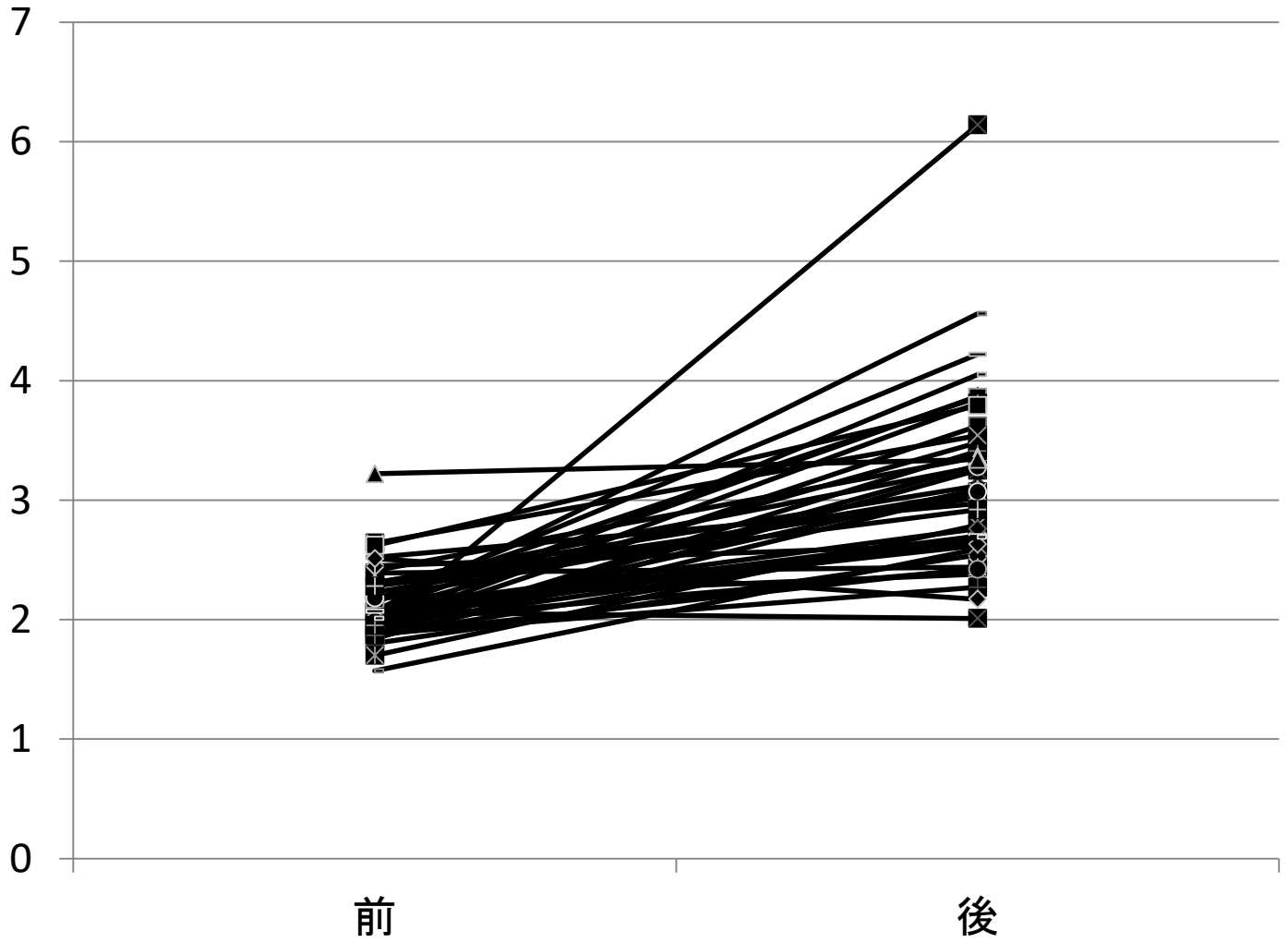
またアメリカ合衆国ではL-T4とL-T3の合剤が製薬され、L-T3の気分障害への効果が期待されている。

我々はL-T4治療中で気分障害を有する23-76歳の患者45例にL-T3を追加し、気分障害を把握するPOMS-2（65の質問項目）で調査した。

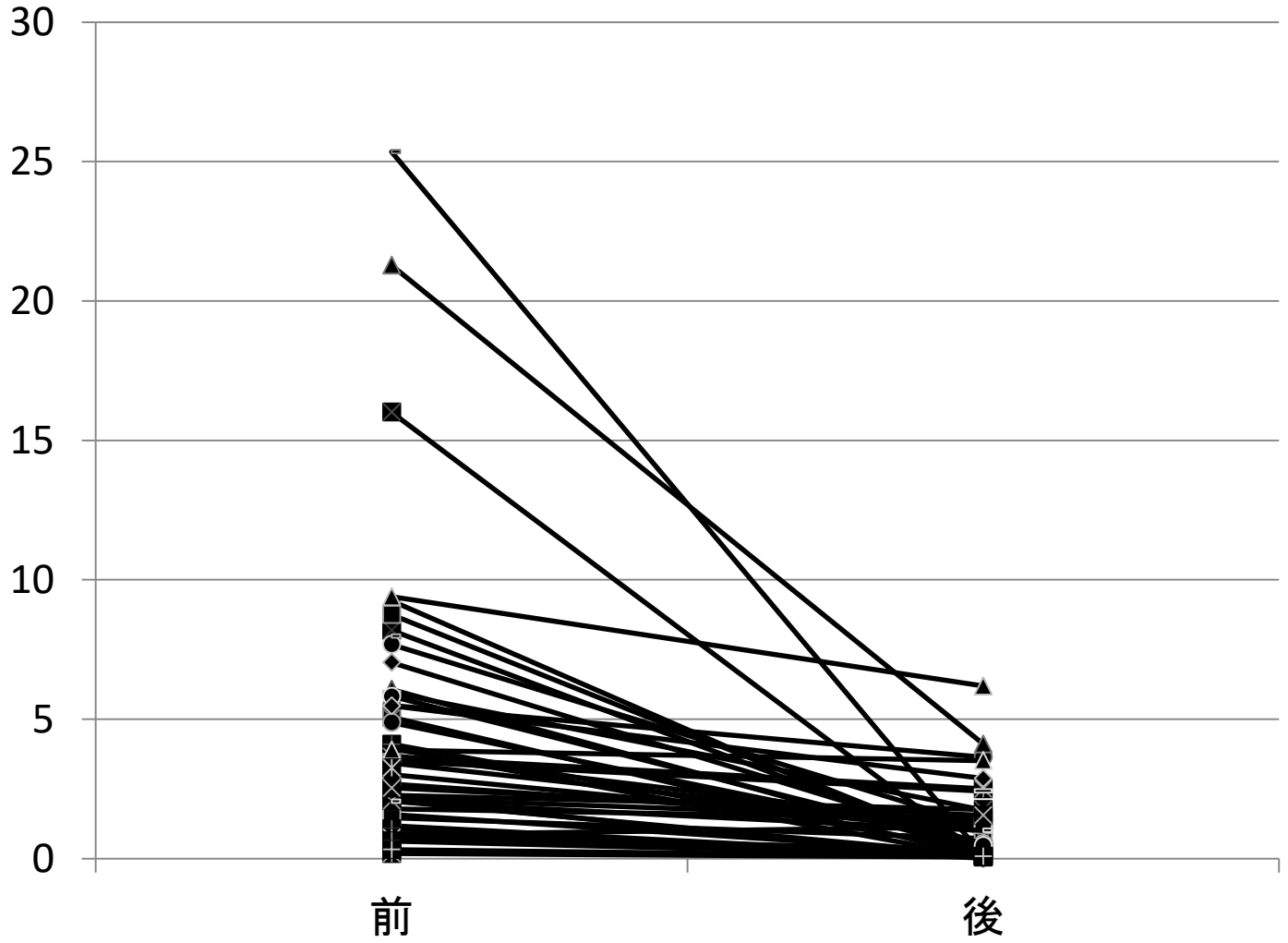
FT4



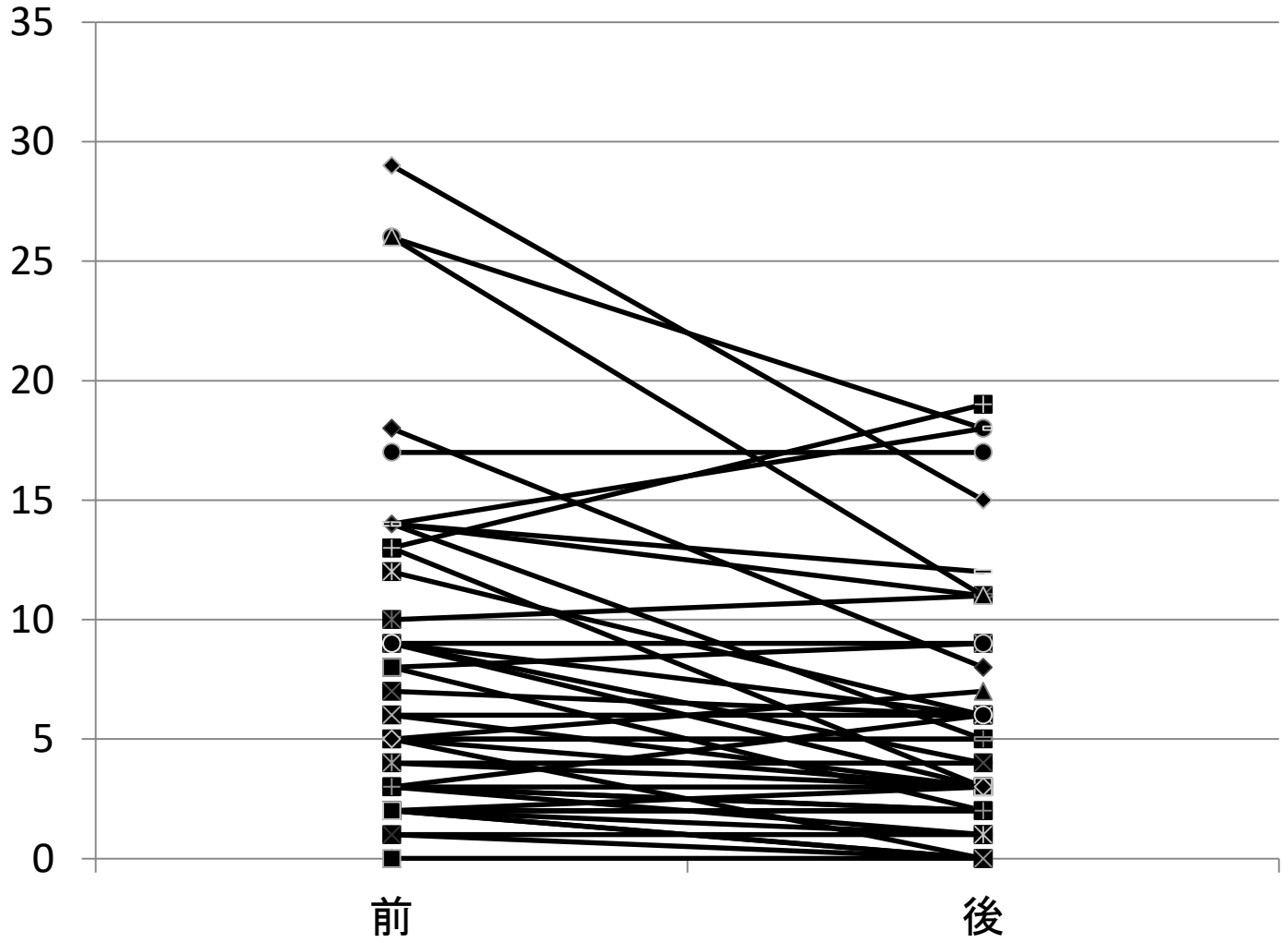
FT3



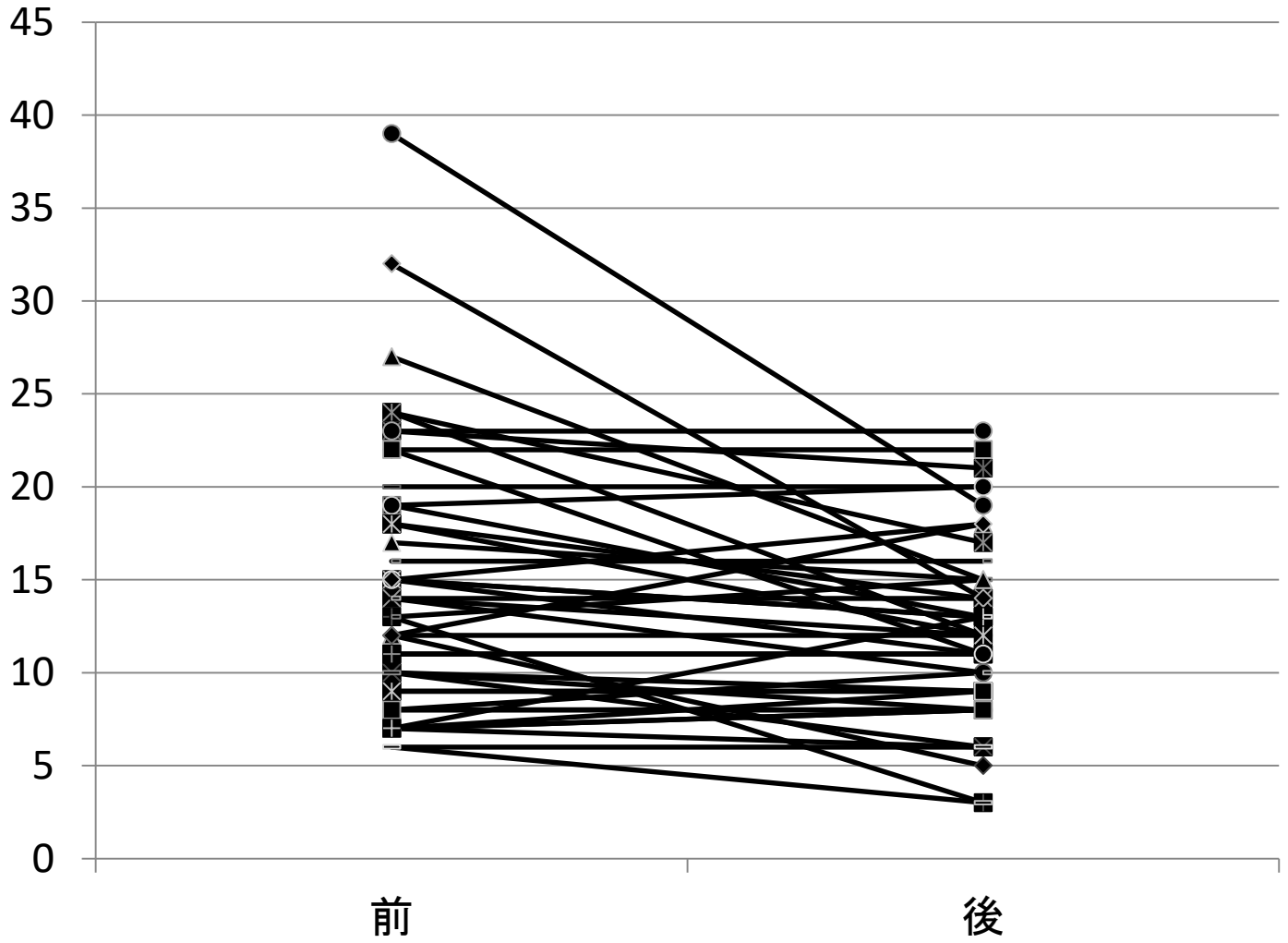
TSH



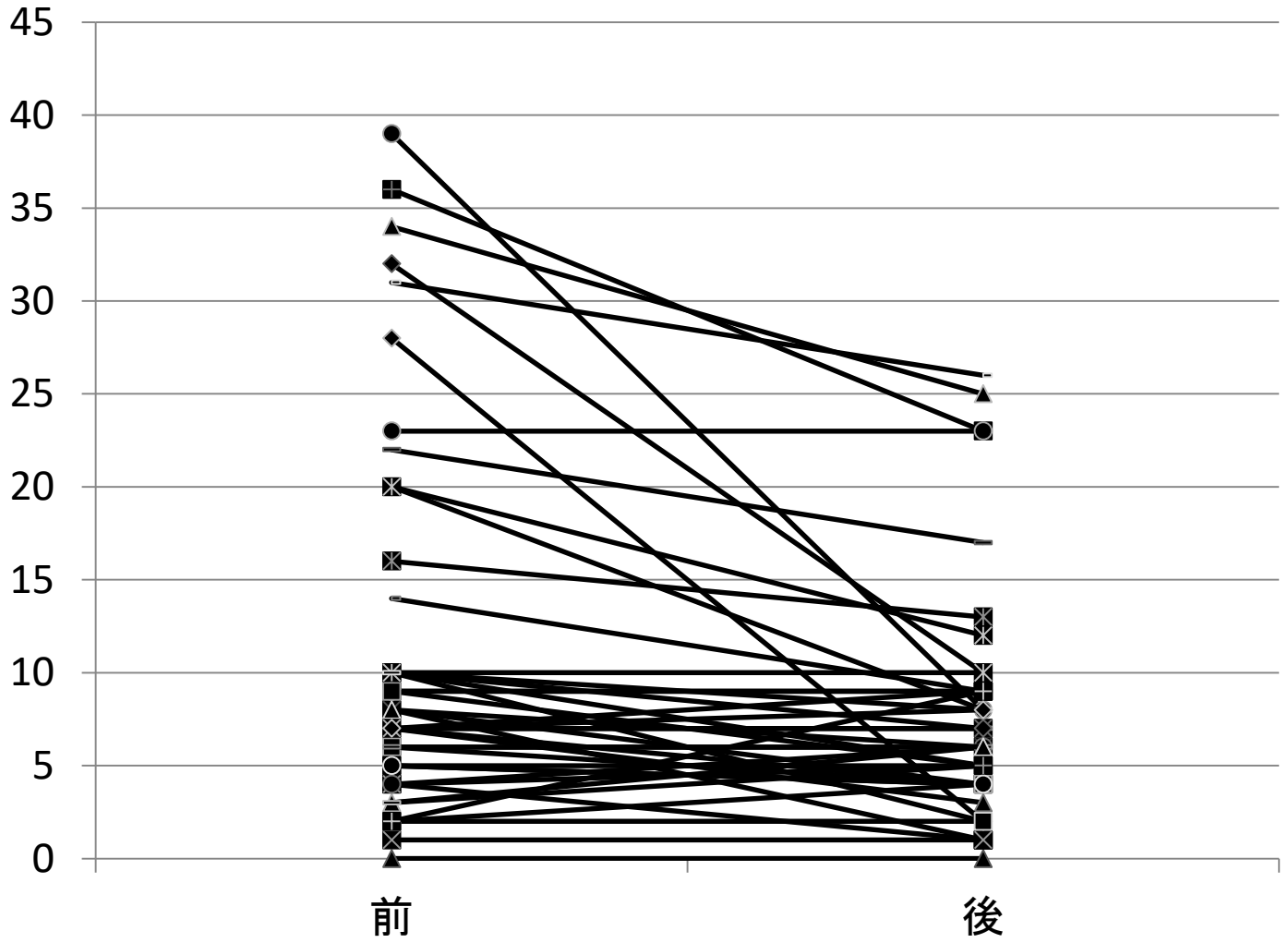
敵意（AH）



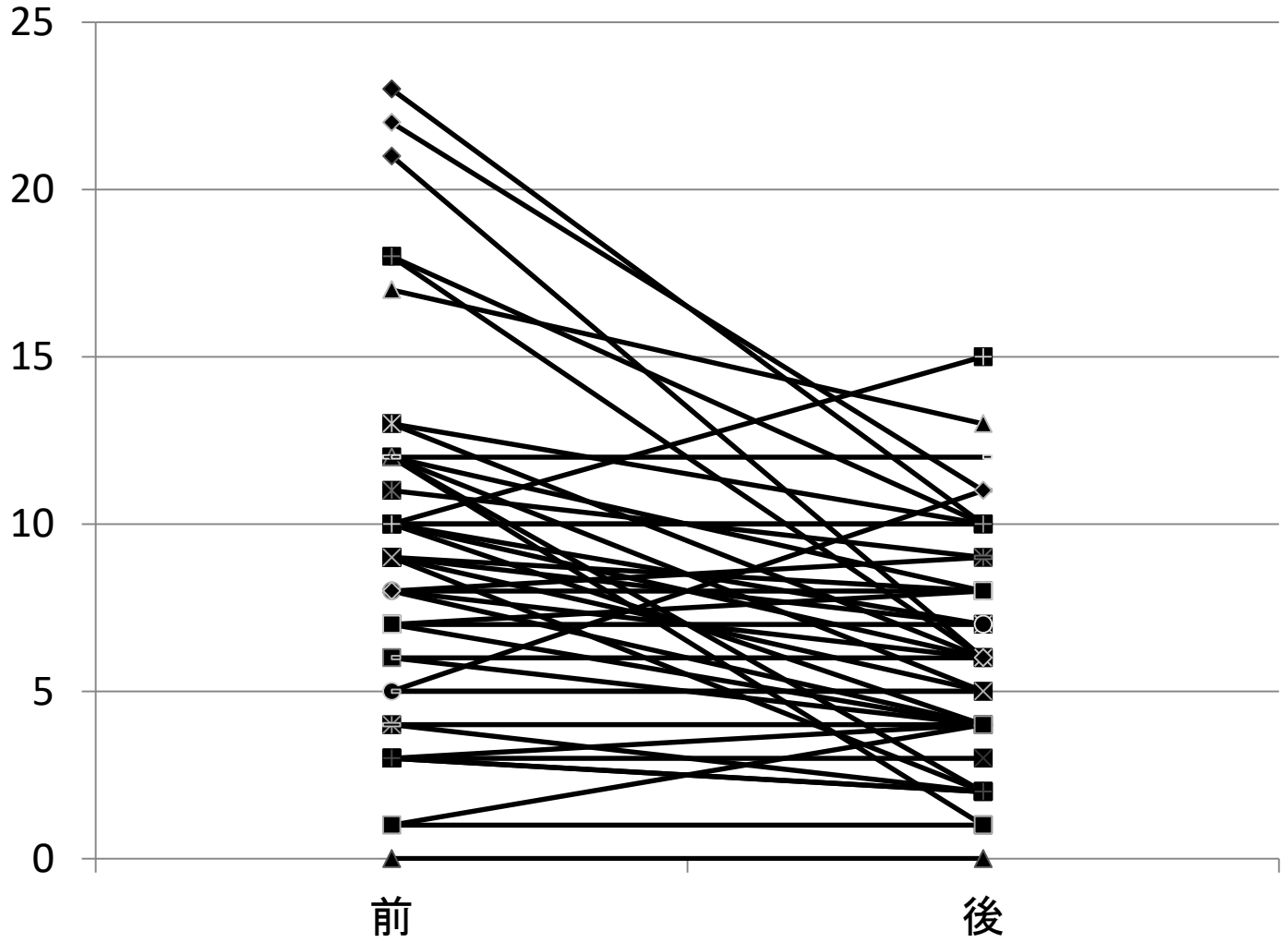
当惑（CB）



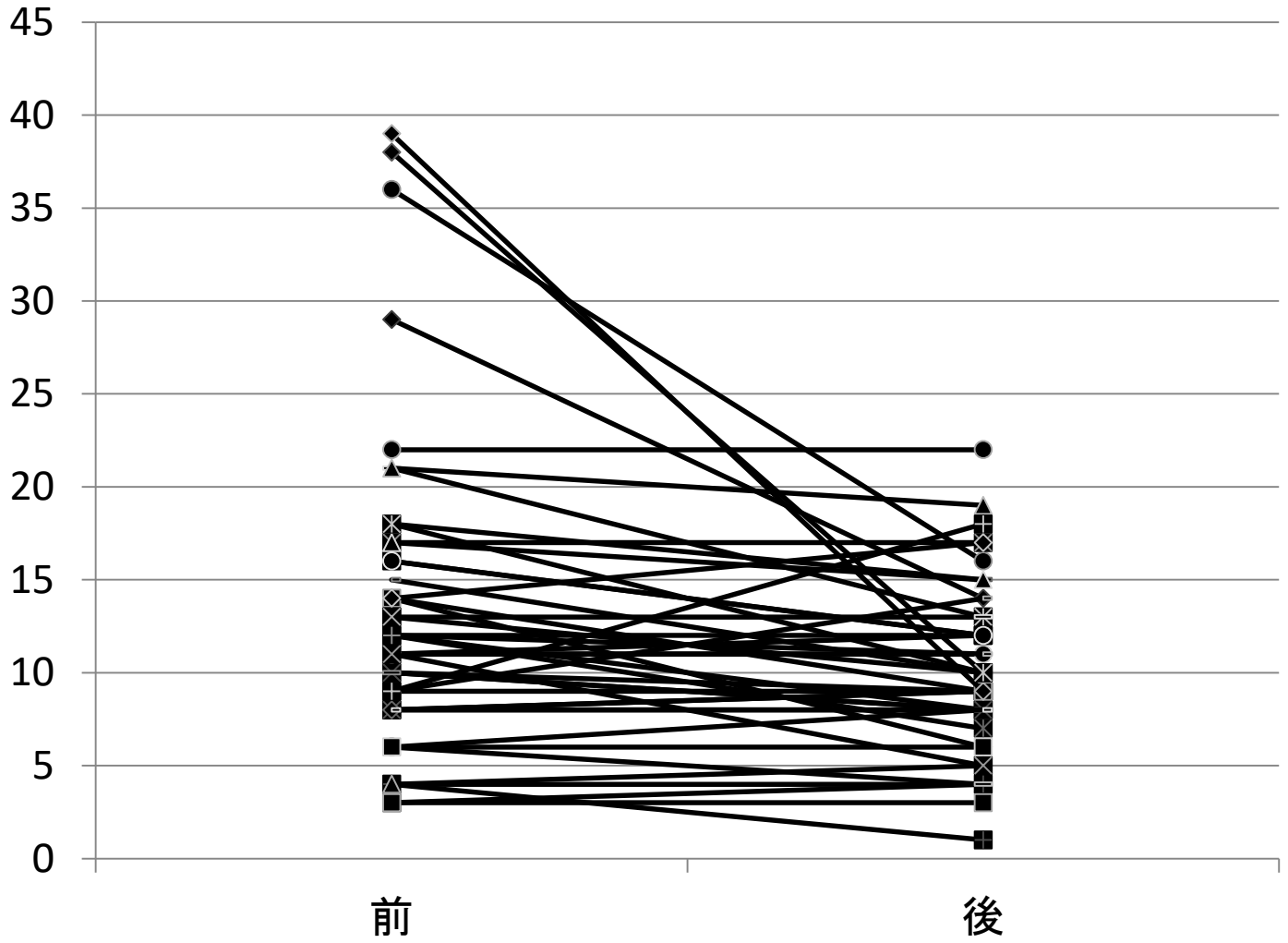
落ち込み（DD）



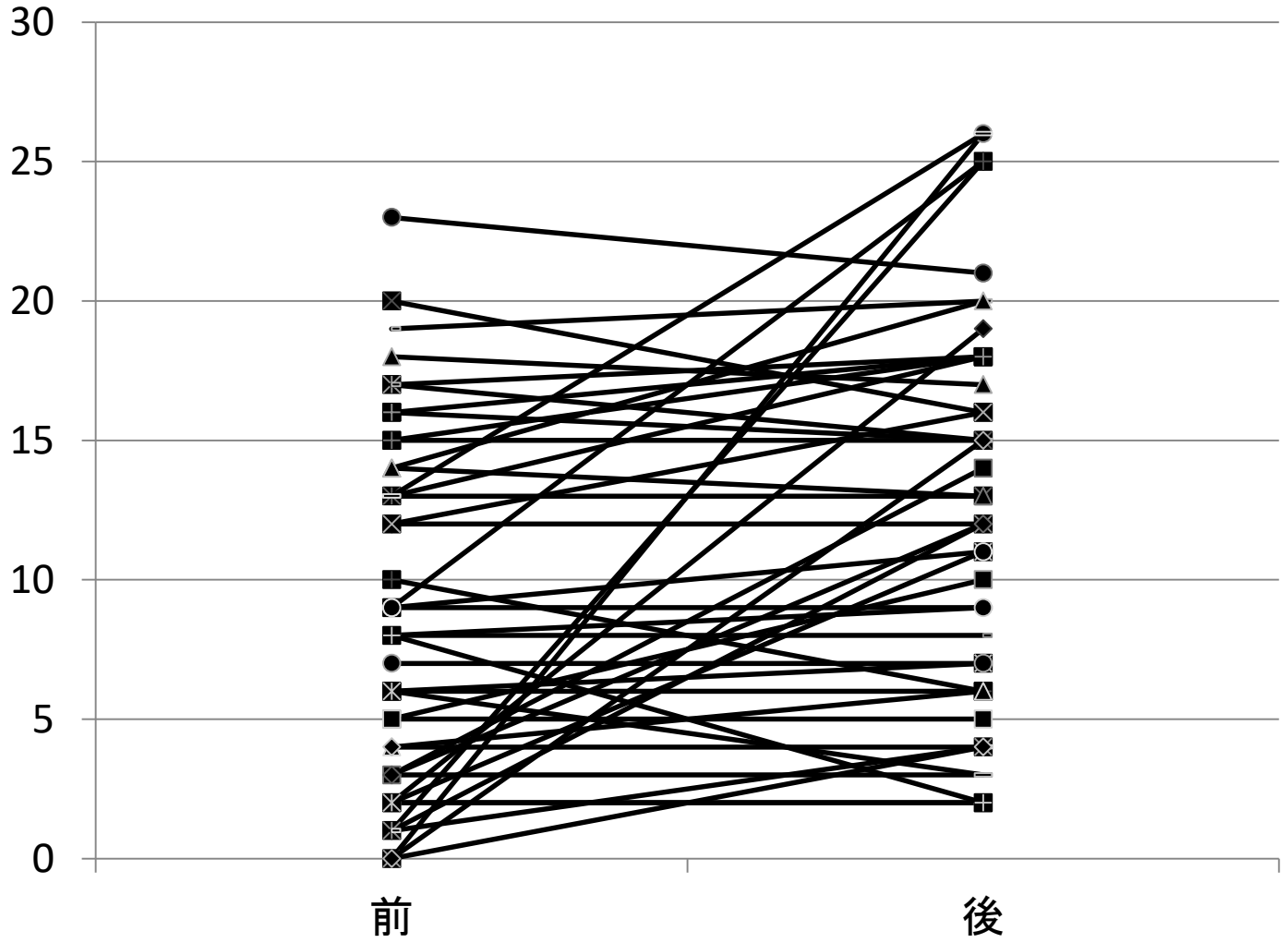
無気力(FI)



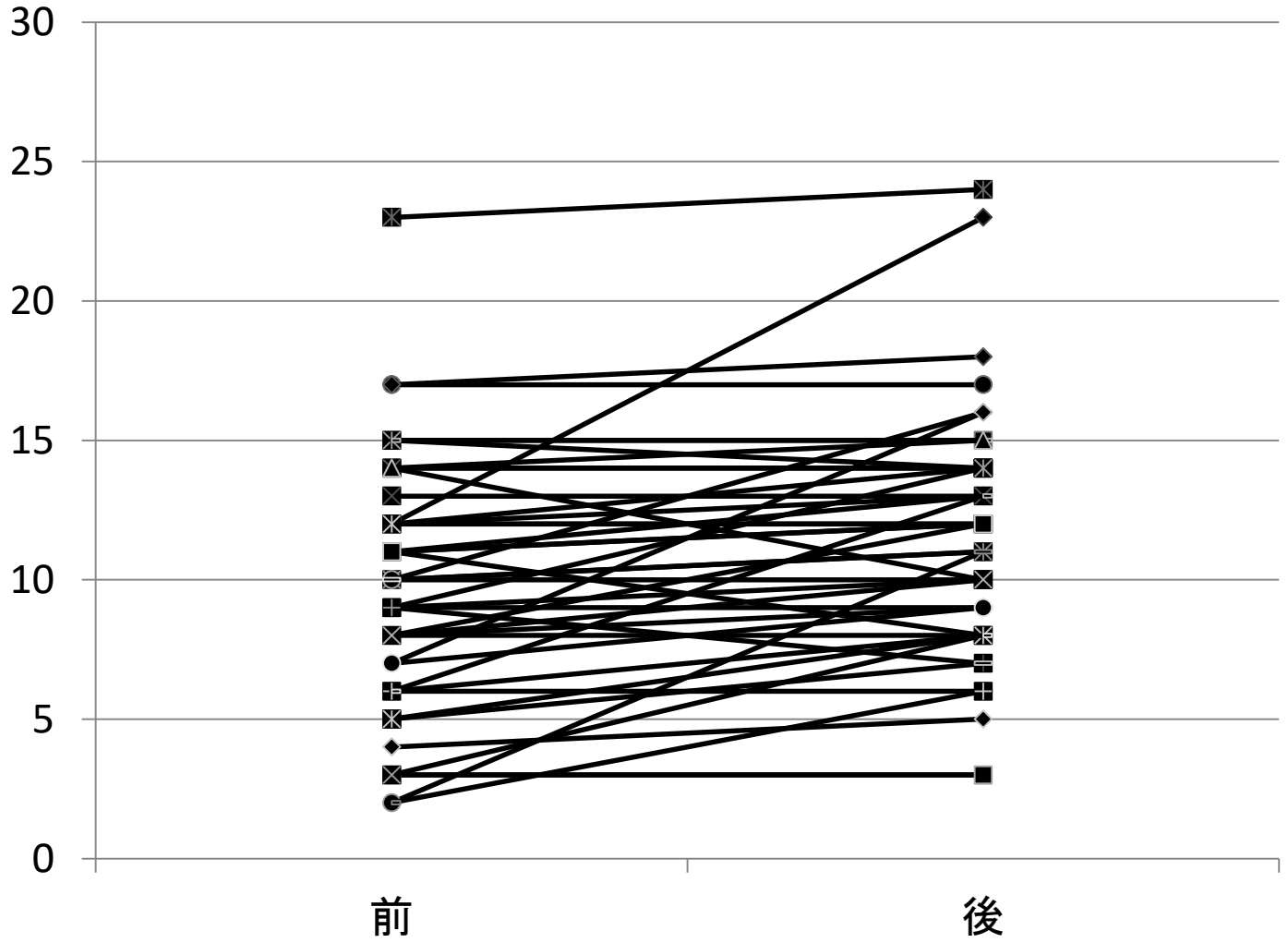
緊張（TA）



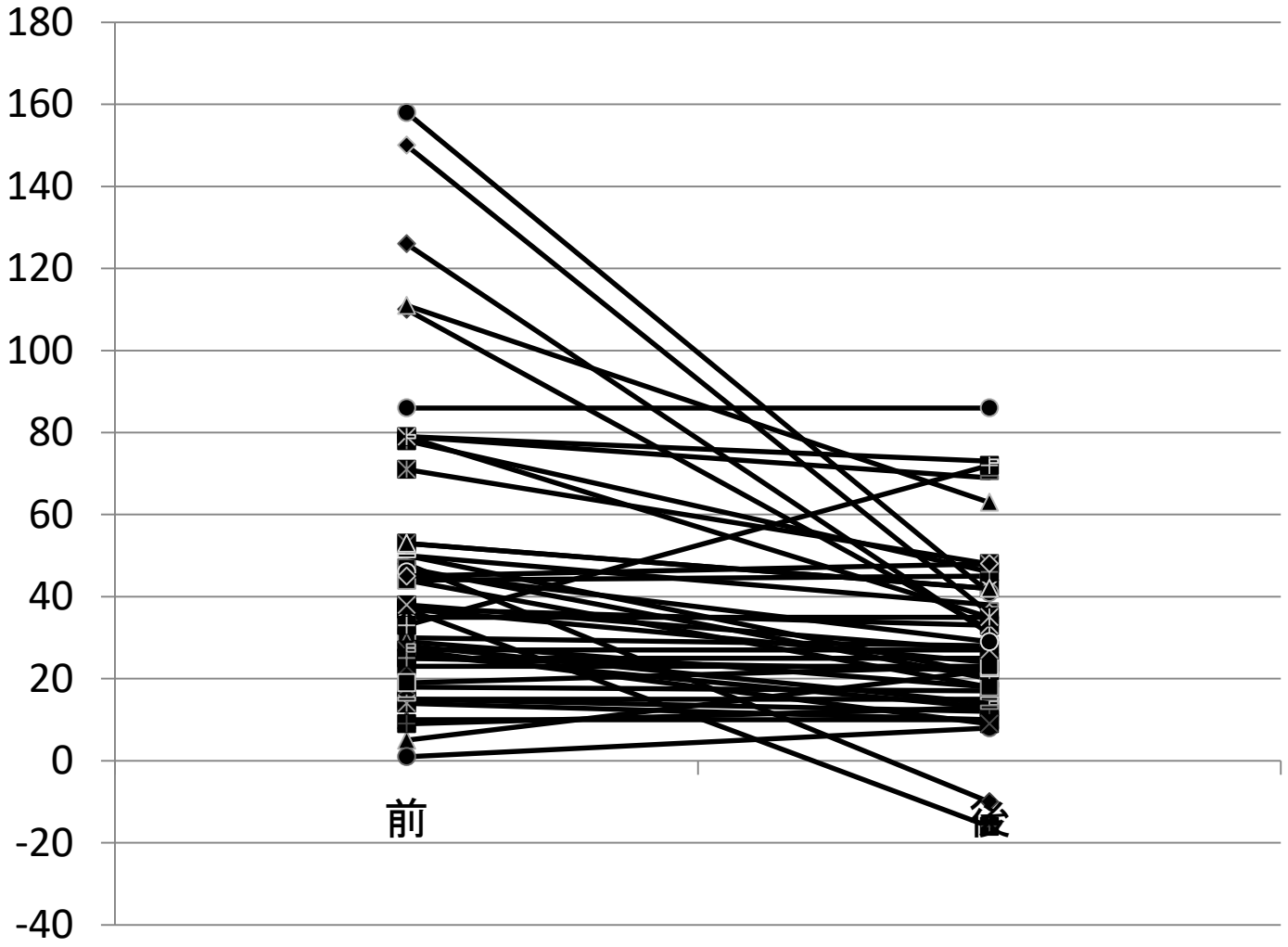
活気（VA）



友好(F)

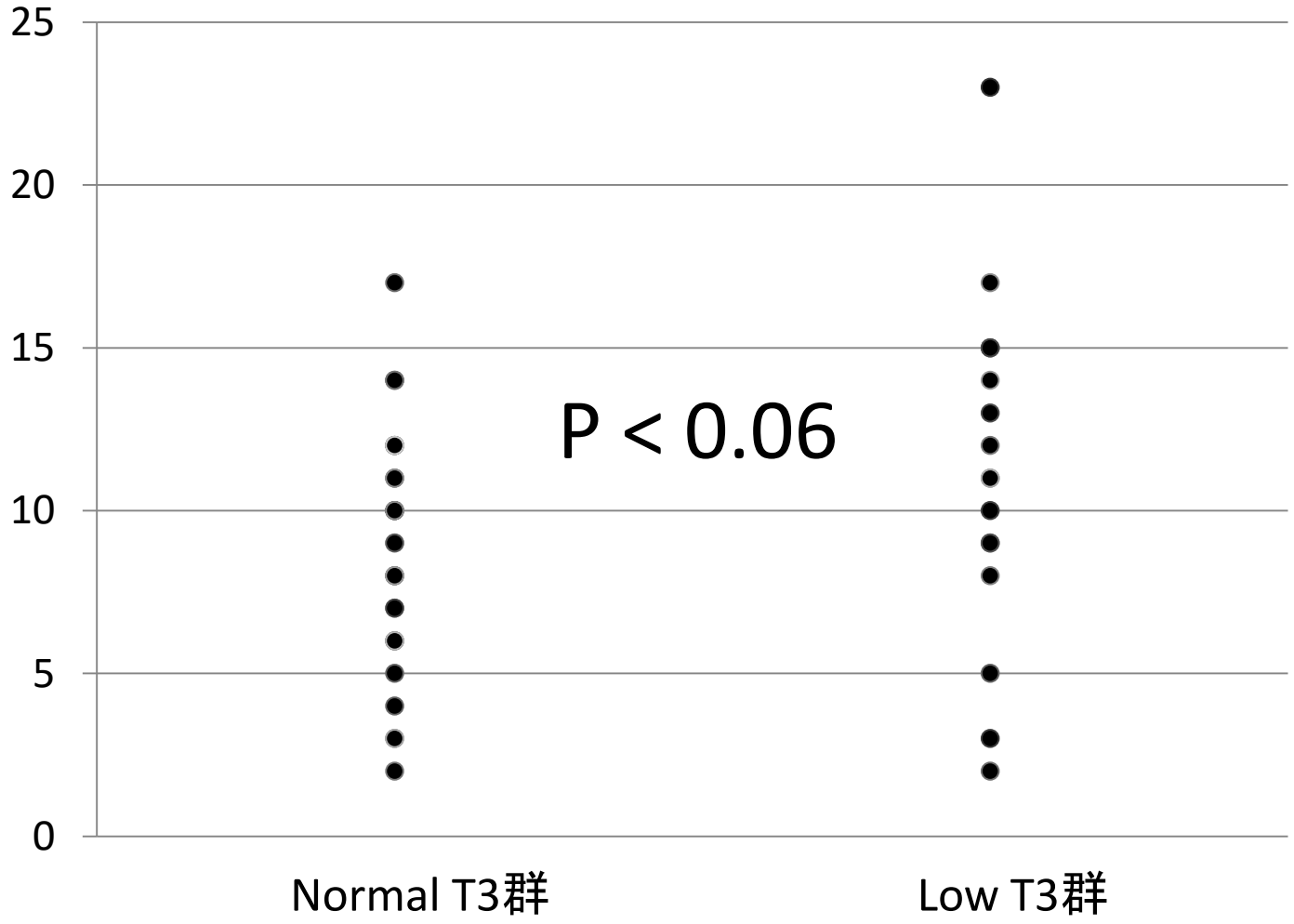


気分障害総合点（TMD）

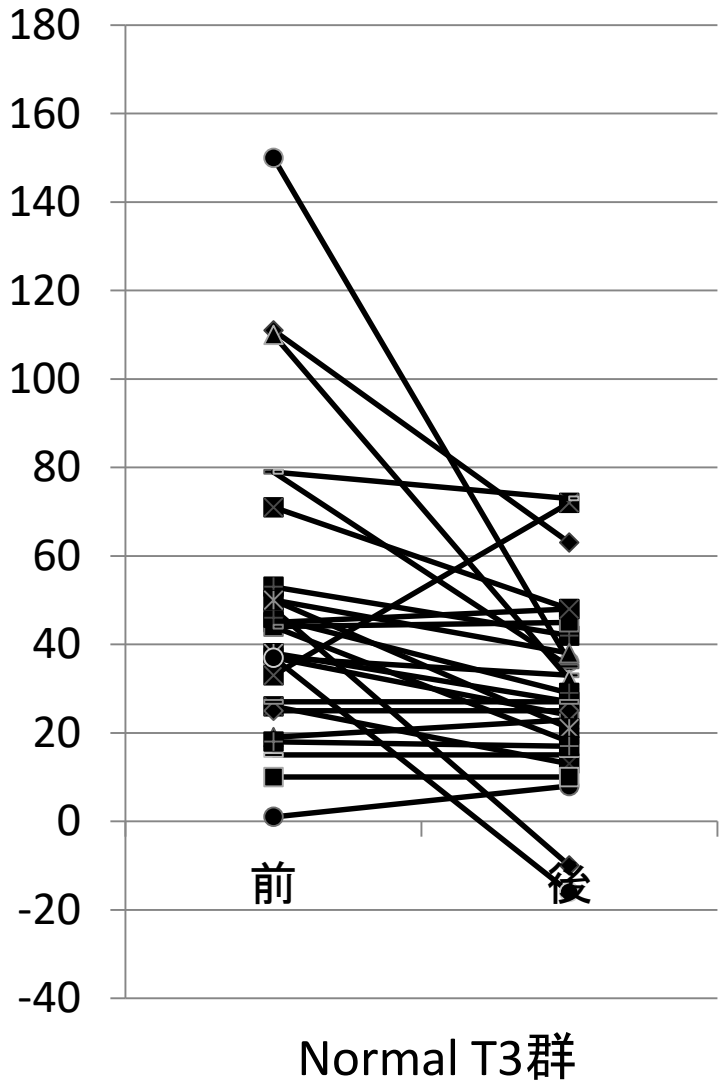


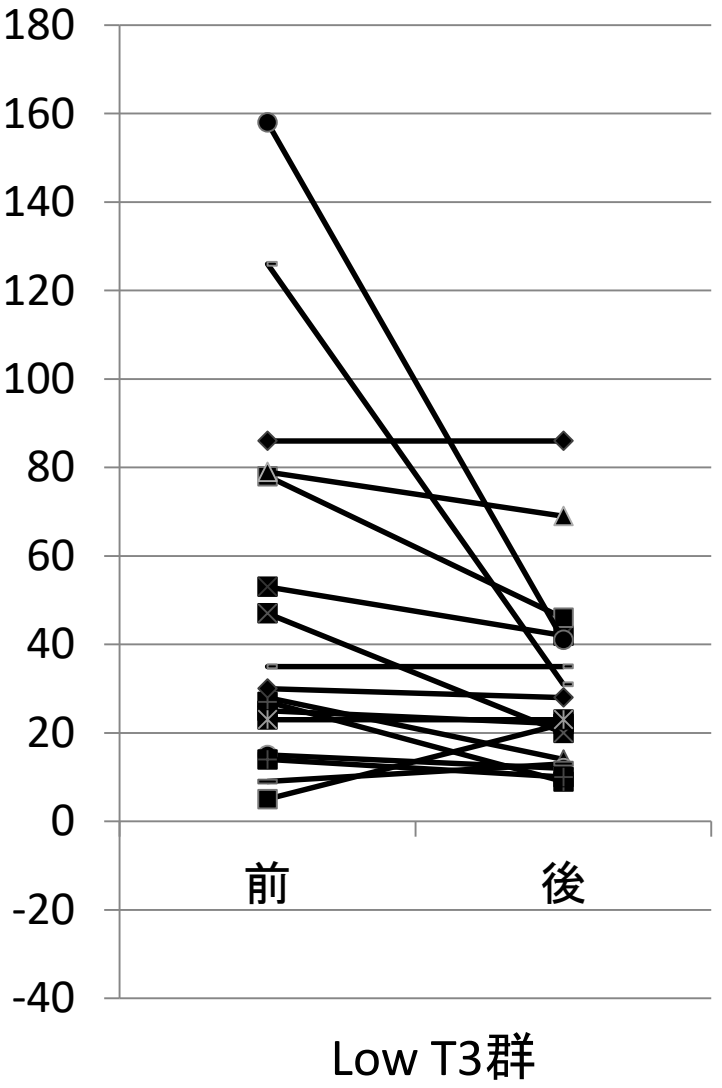
Normal T3群 と Low T3群の比較

友好（F）



Normal T3群とLow T3群の前後比較
気分障害総合点（TMD）





結果

1. L-T3併用後、血中FT3値は平均2.12から3.12pg/ml、FT4は1.27から1.22 ng/dl、TSHは4.88から1.06mU/L、コレステロールは212から205 mg/dlとなった。
2. POMS-2の7尺度中ネガティブな5尺度「敵意，当惑，落込み，無気力，緊張」はすべて有意（P＜0.01）に低下し、ポジティブな2尺度「活気，友好」は有意に上昇した。気分障害総合点は48.2から29.7へ有意に低下した。
3. L-T4内服中での血中FT3値が正常の28例と低値の17例に分けると、低値群では正常群に比べL-T3投与前の尺度「友好」が低い傾向（P=0.06）であった。しかしT3併用前後でのPOMS-2データの変化は、全ての尺度において2群間に差が無かった。

結論

1. 患者の気分状態を改善させる方法としてL-T4プラスL-T3療法が選択肢となる。
2. その効果はL-T4単独療法中での血中T3濃度の高低とは関係なく得られることが示唆される。