

INTRODUCTION

Pretibial myxedema is a characteristic extrathyroidal manifestation of Graves' disease as well as exophthalmic orbitopathy. This symptom is believed to be a rare complication with nodular and localized myxedema in the lower extremities.

However, we have noticed in our clinic that Graves' disease patients were frequently complained with thick legs, mainly for a cosmetic reason.

The formation of their legs was not the characteristic nodular localization but rather diffuse infiltration in all over the lower extremities. The examination of the affected legs by finger oppression showed non-pitting edema exhibiting elastic softness suggesting deposits of glycosaminoglycans(GAG).

PURPOSE OF THE STUDY

To examine whether thickened legs are common in Graves' disease patients.

MATERIALS AND METHODS

One-hundred and seventy-two (172) women
(16-39 years in age)

Subjects	N
Graves' Disease	54
Hashimoto's Thyroiditis	68
Normal Subjects	50

The circumferences of the leg (ankle and calf) were determined using a tape measure.

RESULTS — I

Subjects	N	Ankle (cm)	Calf (cm)	Ankle/Calf Ratio
Graves' disease	54	21.8 ± 2.2*	35.4 ± 3.6	0.62 ± 0.05*
Hashimoto	68	20.7 ± 1.9	34.7 ± 2.6	0.60 ± 0.04
Normals	50	20.1 ± 1.5	34.1 ± 2.9	0.59 ± 0.03

(mean ± SD)

* Graves' disease patients vs normal subjects. (P < 0.01)

RESULTS — II

The ultrasonography showed diffuse deposits of lower echogenetic materials in the subcutaneous area, indicating GAG accumulation.

The affected legs had decreased sensitivity to the temperature by hot patch test, but normal sensitivity to the pin-pricking test.

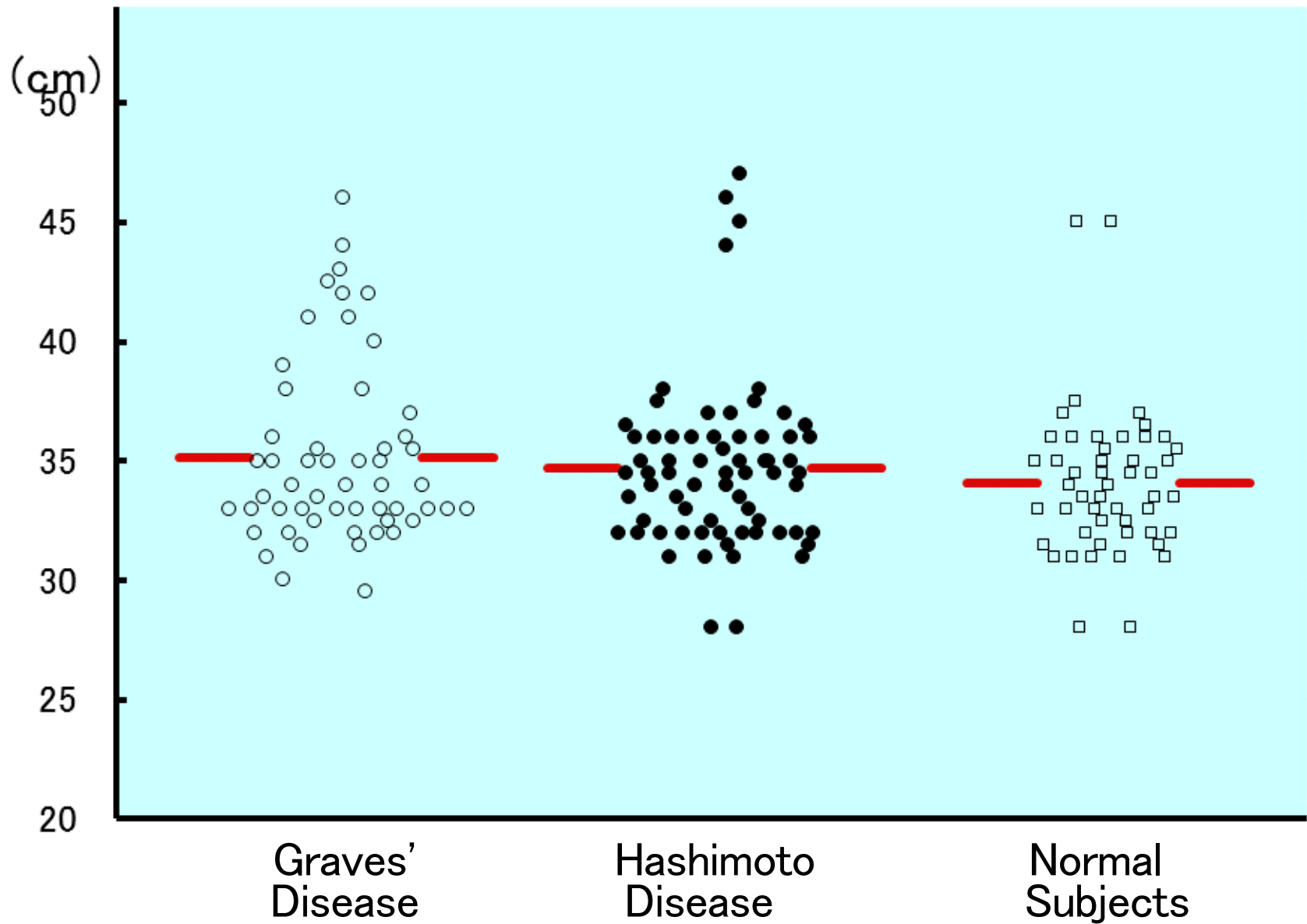
Among Graves' disease patients, the ankles in patients with ophthalmopathy were not significantly different from those without ophthalmopathy (22.3 ± 2.4 cm vs 21.9 ± 2.0 cm).

CONCLUSION

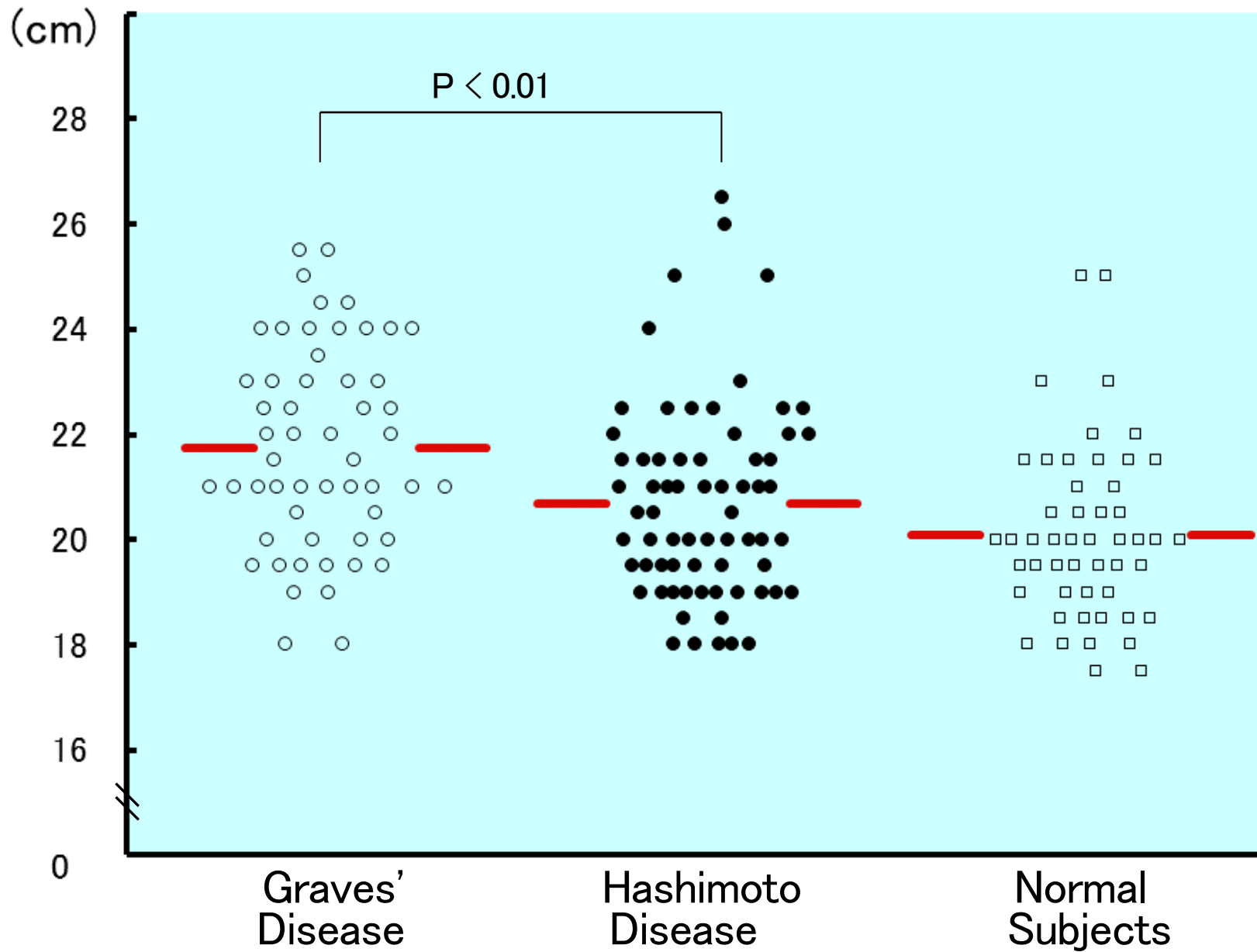
The diffuse but not localized infiltration of GAG, predominantly in the ankle region, seems to be a common extrathyroidal complication of Graves' disease.

A Graves' disease patient whose ankle/calf ratio is greater than 0.66 (2/3) has a possibility of diffuse myxedema due to GAG accumulation.

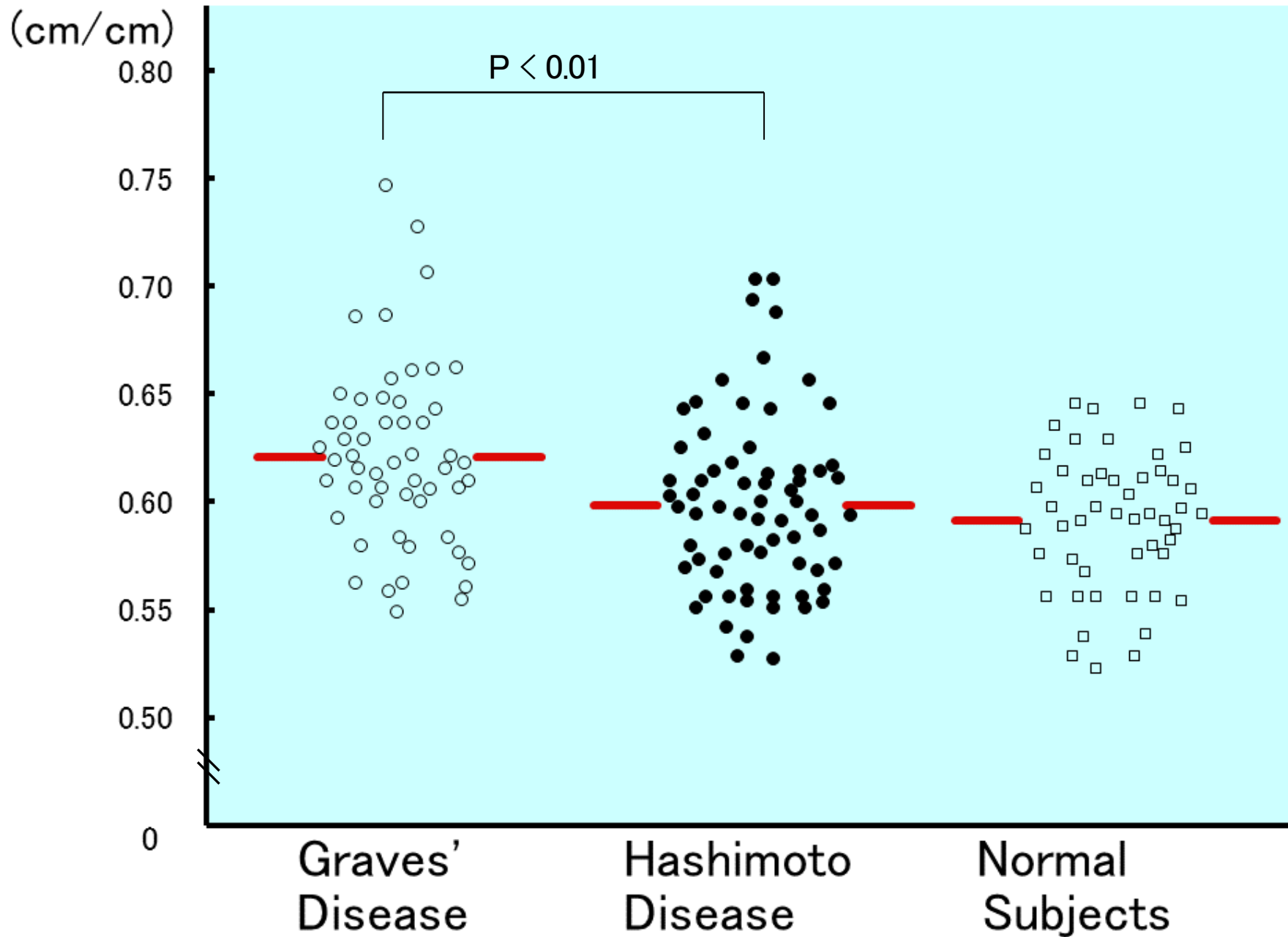
CALF



ANKLE

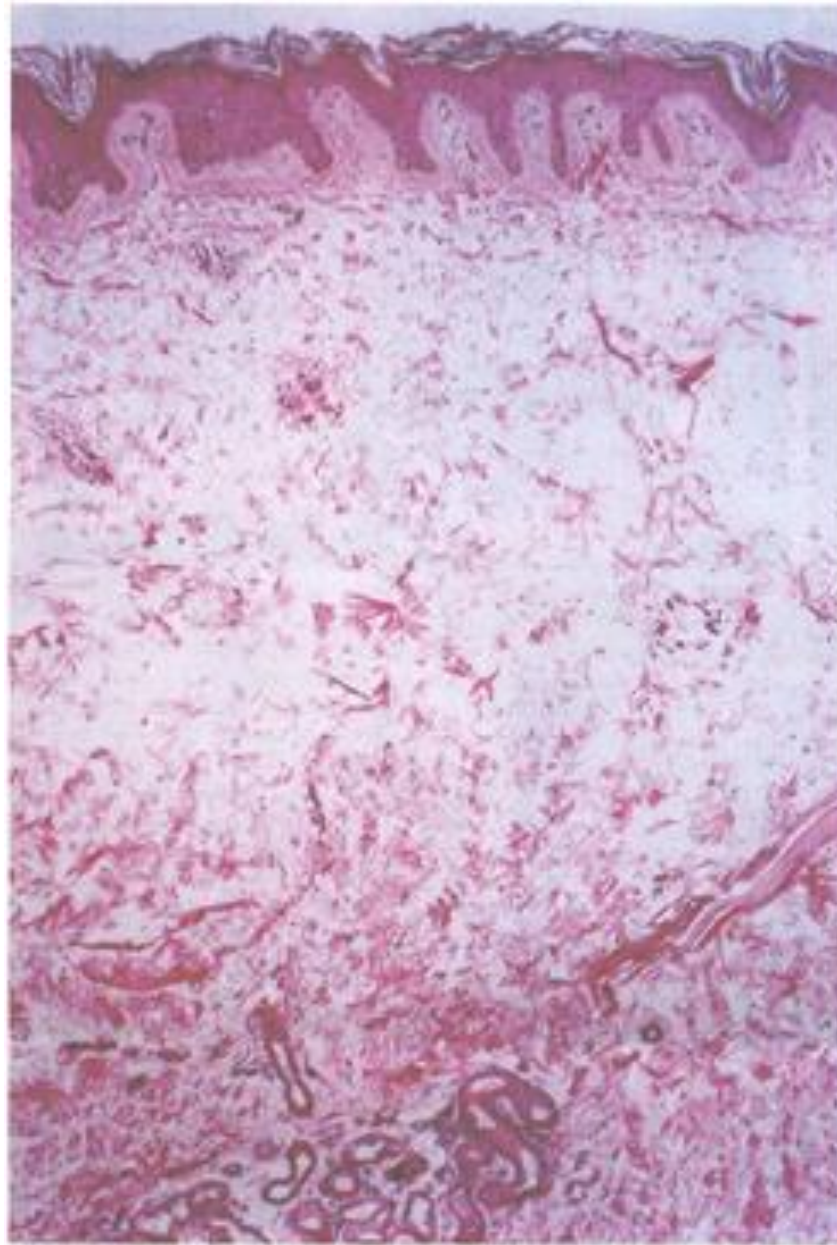


ANKLE/CALF RATIO









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(Schwartz KM et al)