# EP-351

# INSULIN-INDUCED LIPOHYPERTROPHY DIAGNOSTICS IN DIABETIC PATIENTS: SUBCUTANEOUS FAT ULTRASONOGRAPHY

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## Objectives:

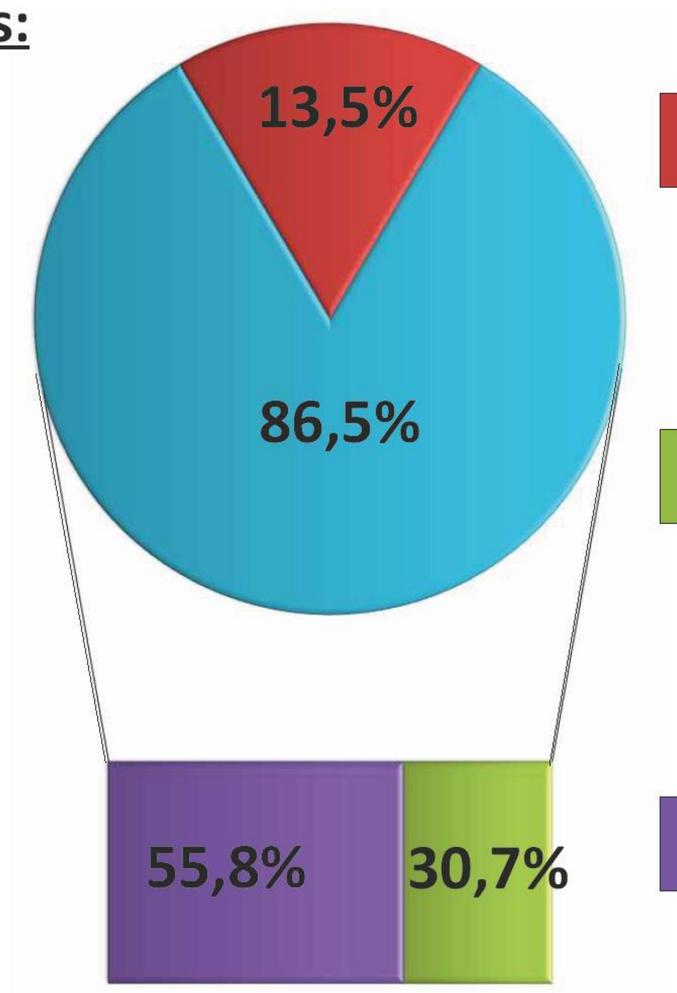
To compare the frequency of insulin induced lipohypertrophy (LH) revealed by ultrasonography of subcutaneous fat with those founded by palpatory method in diabetic patients.

## Material and methods:

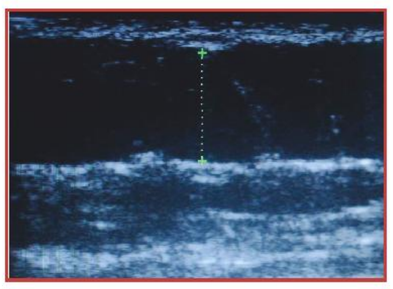
215 diabetic patients under the treatment with insulin a mean 10 years

Observation, palpation techniques, and ultrasonography of subcutaneous fat of injection sites

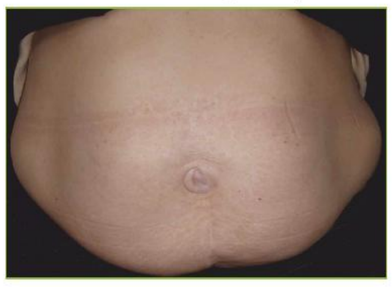
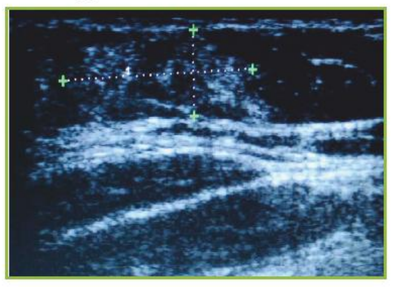
## Results:



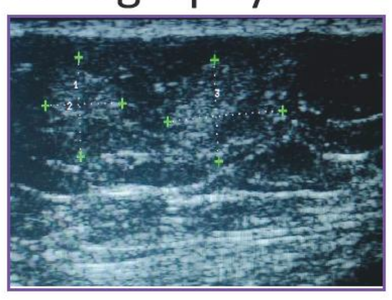

**29** patients with normal subcutaneous fat

**66** patients with palpatory changes of subcutaneous fat

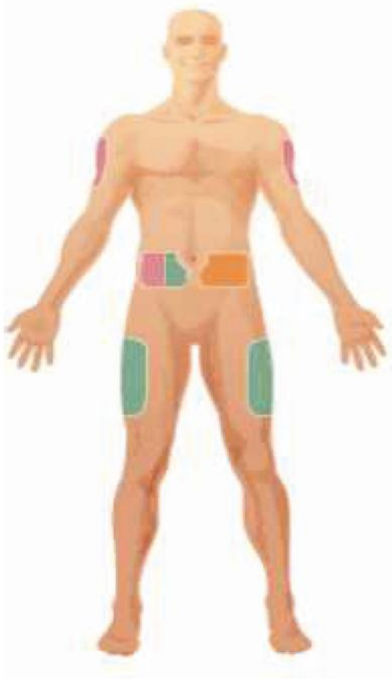



**120** patients with pathological subcutaneous fat revealed **only** by ultrasonography

**186** patients with **LH revealed by ultrasonography**

### LH localization:



- **131** - paraumbilical regions (**61%**)
- **31** - paraumbilical regions and lateral surface of hips (**15%**)
- **24** - paraumbilical regions and lateral surface of shoulders (**11%**)

## Conclusions:

LH have been modified due to good quality modern insulin and expansion their concentration. As a result, pathologic areas of subcutaneous fat have been revealed in 30,7% patients by palpation, while LH have been found in 86,5% subjects by ultrasonography.

Ultrasonography of subcutaneous fat of injection sites could be used to diagnose LH in diabetic patients in clinical daily practice

17 ECE 351--EP
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