



Case report: HRT in testosterone deficiency
 Medical field: age management

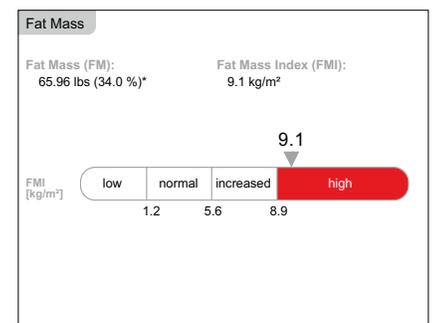
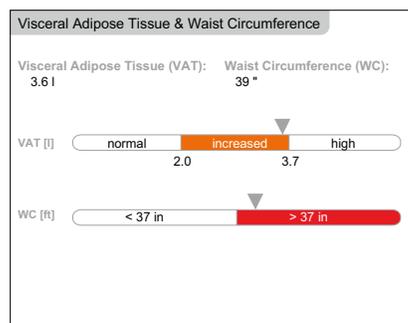
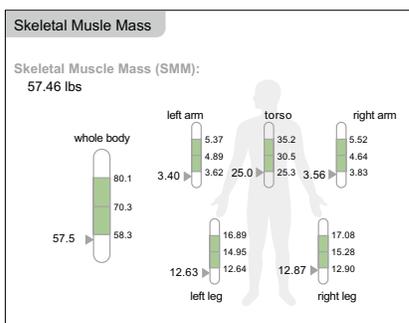
1 Patient Data

- Age: 41 years
- Gender: male
- Height: 5'11"
- Initial weight: 194 lbs
- Initial BMI: 26.8 kg/m²

2 Medical history / diagnosis and procedure

A 41 year old male sought medical aid experiencing decreased energy, reduced libido, weight gain, increased abdominal fat and decrease in muscle strength within the last two years. The physical exam and medical body composition analysis showed sarcopenia with symmetric decreased skeletal muscle mass (SMM below 2SD), high visceral adipose tissue (VAT) and high fat mass index (FMI). Total serum testosterone (TT) measurement done twice showed decreased testosterone levels of 220 ng/dl. Further diagnostics didn't reveal any hypothalamic/pituitary causes for the underlying secondary hypogonadism. The patient is otherwise healthy.

A ketogenic diet was being recommended, a diet- and exercise plan were implemented and an extensive consultation with individual therapy goals had been realized. Therapeutic options for testosterone replacement therapy (TRT) were discussed and the patient felt comfortable injecting testosterone undecanoate (TU) IM in respective intervals.



*percentage of body weight.

3 Follow-up

8 weeks: Patients symptoms started to generally improve

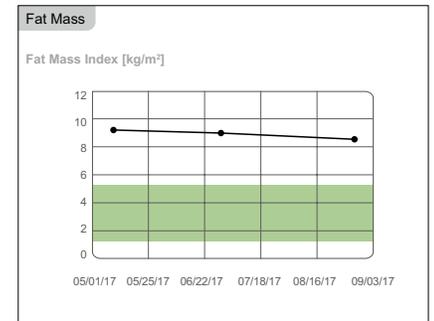
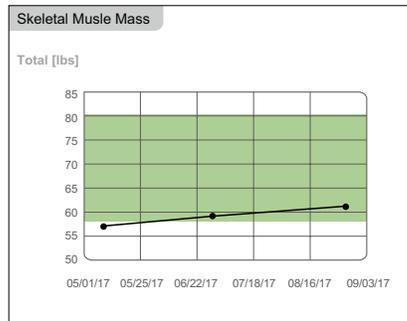
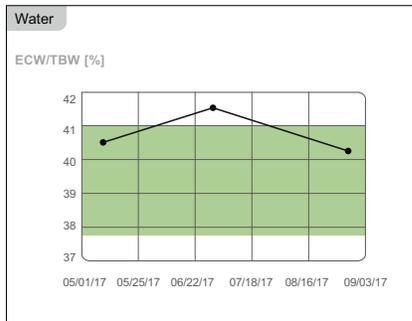
- **Weight:** The patient gained 4.41 lbs
- **Fluids:** ECW/TBW increases above normal
- **SMM:** Increase of 1.8 lbs
- **FMI:** Remained almost the same FMI with 9.0 kg/m² (-0,1 kg/m²), %BF 32.7 % (-1.3 %), absolute 65.35 lbs (-0.65 lbs)

Due to the body composition results the suspected diagnosis is high estrogen levels due to increased aromatase activity. Lab tests were arranged which confirmed high estrogen levels as the cause for the water retention. The patient was started on an aromatase inhibitor (AI) to lower estrogen.

16 weeks: Patients initial symptoms have improved even more

- **Weight:** The patient lost 2.9 lbs of his initial weight
- **Fluids:** Normal ECW/TBW
- **SMM:** Increase of 4.1 lbs since beginning of therapy
- **FMI:** Decreased to FMI 8.3 kg/m² (-0.8 kg/m²), %BF 31.7 % (-2.3 %), absolute 60.73 lbs (-5.23 lbs)

Follow-up in 8 weeks, further compliance to nutrition plan, exercise and TRT



4 Summary

The patient benefited substantially from the right diagnosis and treatment. A small setback during the treatment (water retention due to excess estrogen, aromatized by fatty tissue) was detected early due to continuous medical body composition measurement. Weight alone would not have revealed the increase in mainly extracellular water.

The seca mBCA was able to assist the diagnosis (sarcopenia) and to follow up on the TRT as it directly translates into body composition changes. Further goals of nutritional, physical and hormonal therapy – like normal muscle mass, decreased fat mass and visceral adipose tissue – can easily be visualized and quantified by the seca mBCA.