

Adjustment Disorder and hypertensive episodes associated with cross-sex treatment with testosterone in a young female-to-male transsexual

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Introduction

- Testosterone is the recommended cross-sex hormone treatment for female-to-male transsexuals (FTMT) and is generally safe and well-tolerated. The cardiovascular risk profile may be worsened but the risk of cardiovascular events and mortality are not higher than in the general population.
- It has also been associated with acne, male-pattern baldness and more rarely with the onset of hypertension. Another frequent side effect is proneness to -but rarely actual- aggression, and increased libido.
- We present the case of a young FTMT who developed reversible hypertension related to testosterone treatment in the context of an Adjustment Disorder.

Testosterone

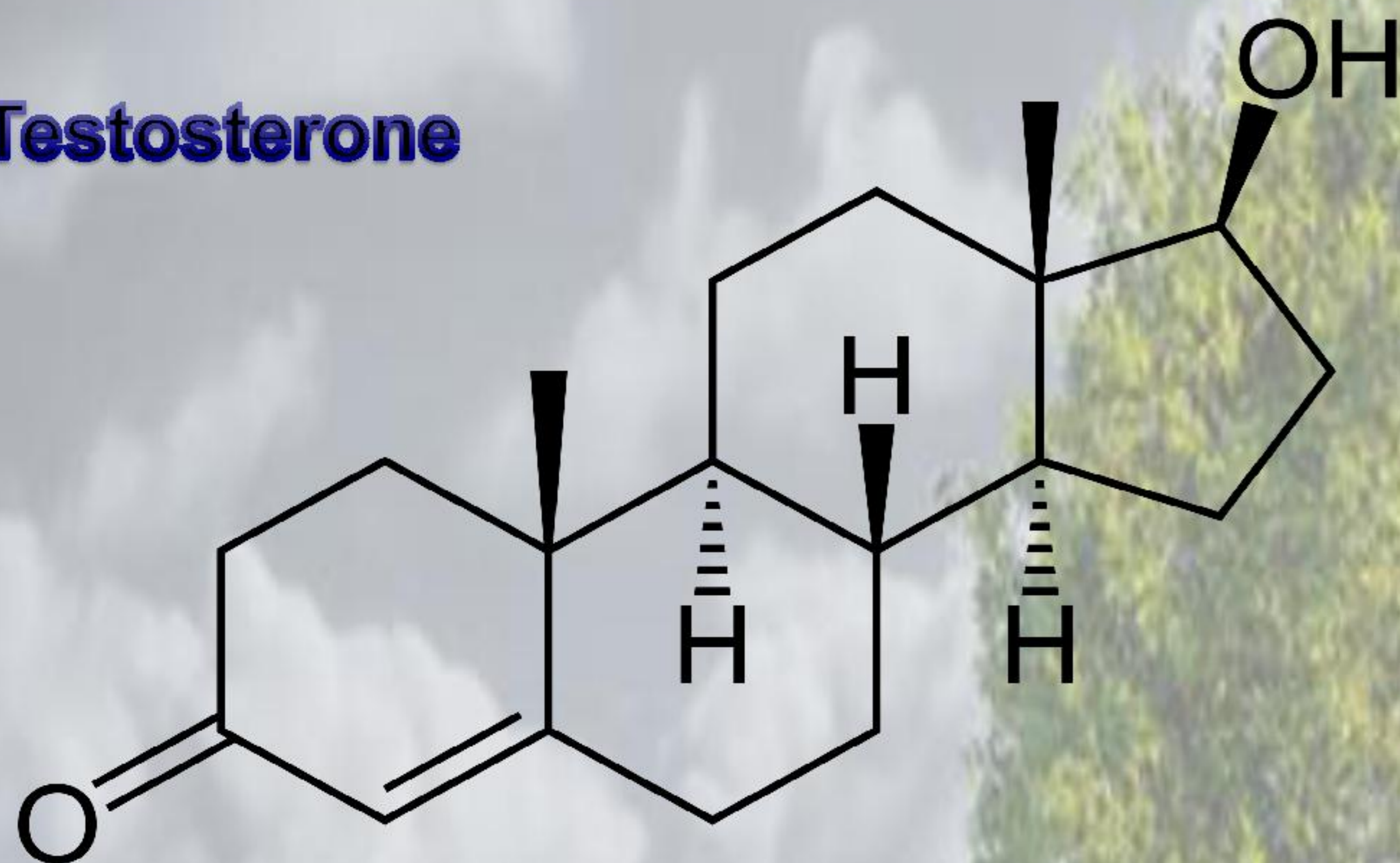


Figure 1: ABPM during treatment with testosterone 40 mg.

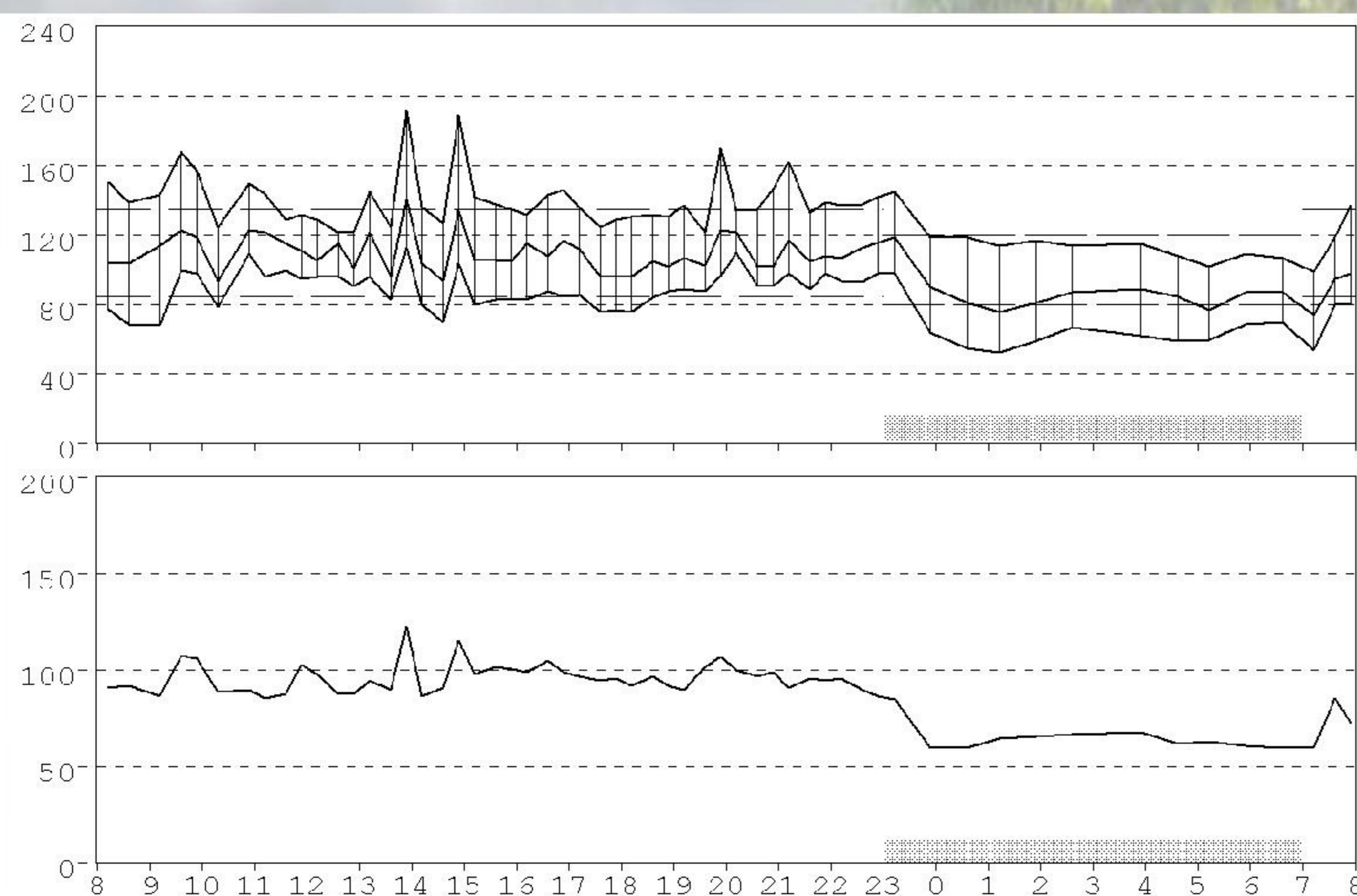
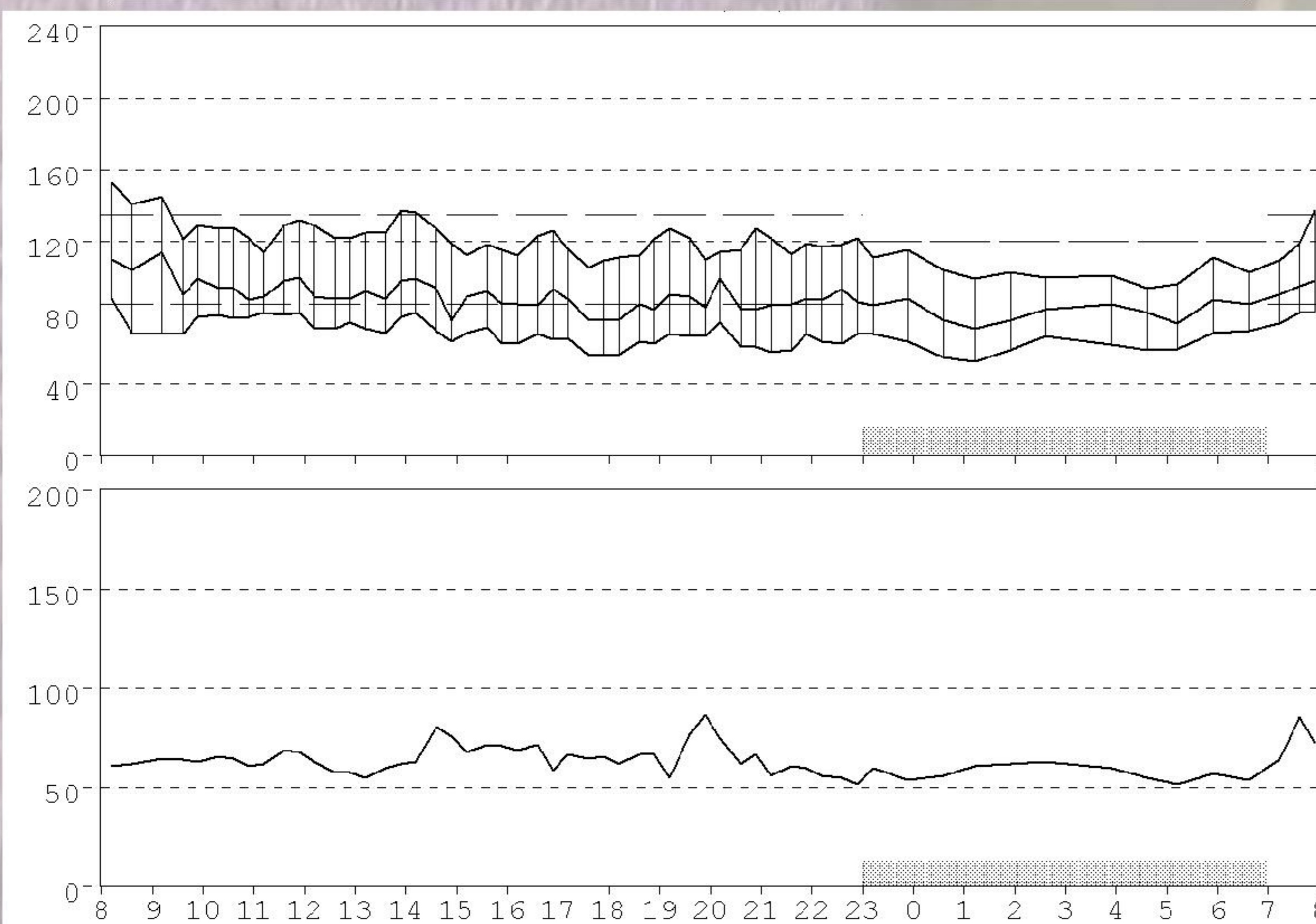


Figure 2: ABPM after 1-month withdrawal from treatment



Case Report

Reason for referral: initiation of cross-sex hormone treatment.

Family history: No hypertension or cardiovascular disease.

Past medical and surgical history: Menarche at 12 years and 6 months, regular menses, no pregnancies. No drugs.

Present illness: A 17 year-old FTMT patient was referred for hormonal treatment.

Physical examination: Normal development of secondary sexual female characteristics. No hirsutism, acne nor male-pattern baldness. Height 166 cm, Weight 57 kg, BMI 28.0 kg/m²; BP: 128/72 mmHg, HR: 76 bpm.

Laboratory findings:

- Normal routine blood chemistry.
- Normal hormonal profile (with TSH, LH, FSH, PRL, 17-β-estradiol and testosterone)
- Karyotype 46XX without anomalies.

Evolution:

- The patient began cross-sex treatment with topical gel 1% testosterone, 20 mg/day
- During the first month, he noticed increased facial and body hair, mild facial acne, increased libido and minor irritability, with occasional aggressive ideation, but without inadequate behavior. These symptoms improved over the next few weeks.
- Three months later the testosterone dose was increased to 40 mg daily.
- Immediately the patient recounted a worsened irritability and aggressive ideation, with out-of character episodes of verbal aggression.
- Additionally, he had episodes of nonpulsatile holocraneal headache without vegetative symptoms.
- During the headache episodes, high blood pressure was recorded twice, with SBP in the 170-180 mm Hg range, and DBP about 90-100 mm Hg.

Reevaluation:

- A workup of secondary hypertension was performed, including EKG, chest X-ray, abdominal US, plasma renin activity, aldosterone and metanephrines, without any pathological findings.
- Routine laboratory was normal. Hormonal profile was: LH 1.6 mUI/mL, FSH 1.9 mUI/mL, 17-β-estradiol 26 pg/mL, PRL 18 ng/mL and testosterone 9.7 ng/dL (concordant with a normal male profile).
- A 24-h Ambulatory Blood Pressure Monitoring (ABPM)(Figure 1) showed several diurnal BP peaks up to 192/113 mm Hg, with simultaneous tachycardia up to 123 bpm. In the waking period, the mean BP was 138/87 mm Hg and the mean HR was 93 bpm; in the sleep period, they were 116/67 mm Hg and 66 bpm respectively; the circadian profile was dipper. The BP and HR peaks were coincident in time with anger and aggressive mood.
- The patient was diagnosed of Adjustment Disorder, he received brief psychotherapy but no medication; testosterone was temporarily withdrawn. After one month without hormone treatment, he felt calmer without aggressive ideation.
- A new ABPM was performed (Figure 2) with no high BP peaks. In the waking period, the mean BP was 124/71 mm Hg and the mean HR was 65 bpm; in the sleep period, they were 105/64 mm Hg and 58 bpm respectively; the circadian profile was dipper.
- However the patient was very keen on reinstating the hormonal treatment. Low-dose testosterone treatment was reintroduced, beginning with 10 mg daily; he was instructed to increase the dose in a slowly progressive fashion, with 10 more mg every two months up to the target dosage of 50 mg daily, but avoiding the dose increase in case of aggressive ideation, inadequate behavior, headache or hypertension.
- Nowadays, the patient continues cross-sex hormone treatment with standard dose of testosterone 50 mg daily, with normal development of secondary sexual male characteristics. He remains normotensive, without headaches and other Adjustment Disorder symptoms.

Conclusions

- Our patient suffered hypertensive episodes in the context of an Adjustment Disorder associated with testosterone treatment and the development of secondary sexual male characteristics.
- The increased blood pressure does not seem a direct consequence of testosterone, but an indirect result mediated by the untoward psychological reactions of the patient.

