Unmasking Thyrotoxicosis in the Operating Room

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Background

Thyrotoxicosis is a known cause of thyroid storm (TS) in patients exposed to triggers like surgery or infection.[1] TS is a rare life-threatening health condition, with a mortality rate of 10 to 30%. The diagnosis is primarily clinical without specific signs or symptoms.

Case Report

27 years-old female patient scheduled for esthetic breast reduction surgery

Preoperative anaesthetic visit

Past medical history:

- # Uneventful caesarean-section with epidural anaesthesia
- # Denied other relevant medical records

Day before surgery:

- # BMI 28,1Kg/m²
- # Vital signs: BP 120-80 mmHg; HR 85 bpm; temperature 36.8°C
- # Blood count was normal.
- # ECG: sinus tachycardia 110 bpm

At admission to the OR

- # Anxious
- # Vital signs: BP 175-90 mmHg; HR >160 bpm; temperature 36.9°C
- # EKG: narrow complex tachycardia of >160 bpm

2 mg midazolam IV
Vagal maneuverers

Without hemodynamic effect

Surgery was postponed and a detailed analytic evaluation was performed

Table 1 - Burch-Wartofsky Point Score Scale

Signs/Symptoms		points
Temperature	< 37,7 °C	5
Central nervous effects	Missing	0
Hepatogastrointestinal dysfunction	Missing	0
Pulse frequency	≥ 140/minute	25
Congestive Heart Failure	Missing	0
Atrial Fibrillation	Missing	0
Suggestive precipitating event	Present	10

40

suggestive of impending storm

2 hours later

- # Vital signs: BP 138-83 mmHg; HR 141 bpm
- # EKG: sinus rhythm
- # Echocardiogram: normal
- # Biochemistry:
TSH 0,0 UI/mL; free T4 2,9 ng/dL; free T3 17,22 pg/mL

Thyrotoxicosis probably from Graves' Disease

Orientated to the problem clinical interview:
Irritability, diaphoresis and insomnia in the last 3 months, without hypertension, palpitations or weight loss.
Physical examination revealed hand tremors, slight exophthalmia and palpable goiter.

. She was prescribed with propranolol and methibazole and referred to an endocrinologist appointment.

Discussion

- ✓ Tachycardia and hypertension in a young patient, with overweight, can have a variety of diagnosis
- ✓ Thyrotoxicosis is a rare event that demands the anaesthesiologist to be alert to its occurrence. Signs of thyroid storm include fever, rise in PaCO₂, acidosis, hyperventilation, cardiovascular, neurologic or gastrointestinal dysfunction.
- ✓ Treatment should be immediately started, as delays could be fatal.

Learning points

Thyroid pathology's symptoms can have a subtle beginning making diagnosis difficult, essentially when the phenotype is atypical. In the absence of a diagnose, having a high suspicious index can be the only way to, avoid serious complications in those patients. The anaesthesiologist should have an active role in the diagnosis and clinical management.