# HOW TO MANAGE HYPERTHYROIDISM: Q&As

**Andrea Frasoldati**
**SC Endocrinologia**
**ASMN Reggio Emilia**

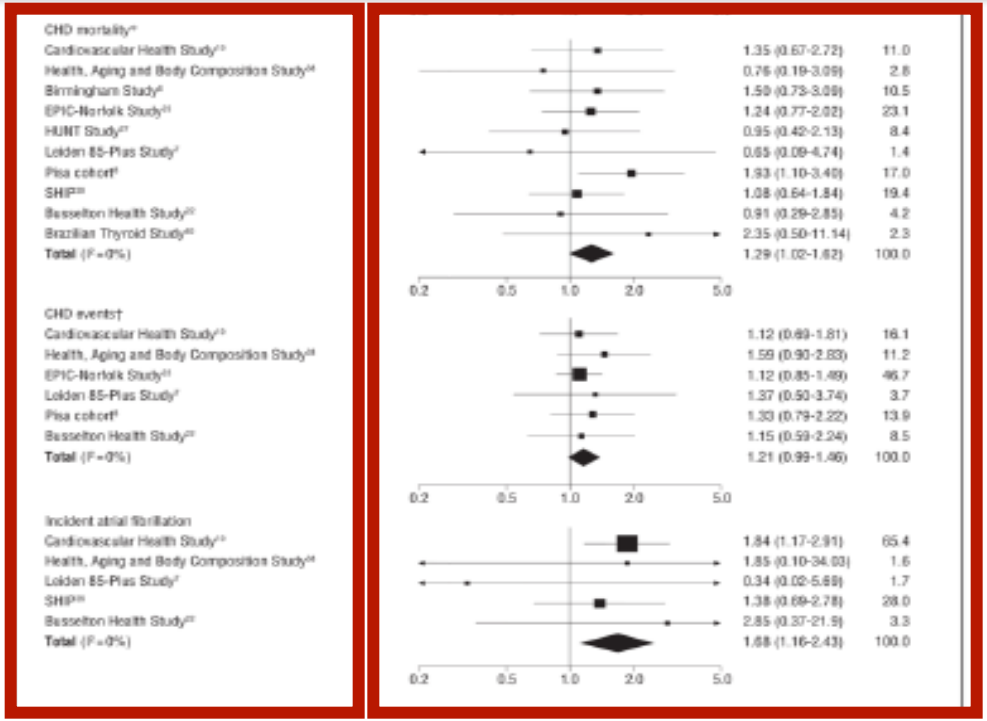
# Conflitti di interesse



Ai sensi dell'art. 3.3 sul conflitto di interessi, pag 17 del Regolamento Applicativo Stato-Regioni del 5/11/2009, dichiaro che negli ultimi 2 anni non ho avuto rapporti diretti di finanziamento con soggetti portatori di interessi commerciali in campo sanitario

# SC Hyperthyroidism and the Risk of Coronary Heart Disease and Mortality






Endogenous SC hyperthyroidism is associated with increased risks of total, CHD mortality, and incident AF, with highest risks of CHD mortality and AF when TSH <0.10 mIU/L.

*Arch Intern Med. 2012 May 28; 172(10):*

# SC hyperthyroidism: index Case



Mario, age 70

TSH 0.04 mU/L fT4 and fT3 in the normal range (discovered after incidental finding of thyroid nodules)

US: nodular goiter: multiple nodules in both thyroid lobe with two larger (28 and 22 mm diameter) nodules in right lobe and isthmus, well defined margins, spongiform appearance, peri- and intranodular vascularization.

No relevant clinical history. Mario does not take any drug on regular basis (ASA occasionally for “back pain”)

# SC Hyperthyroidism: treat or treat not



Would you treat Mario's SC hyperthyroidism?

**YES, to prevent progression to overt disease**

**NO, Mario is asymptomatic**

**DON'T KNOW. Need more data**

# Hyperthyroidism: Q&As



- **SC Hyperthyroidism: treat or treat not**

# AME Survey on Graves' s disease management



- 947 respondents (51.9% of AME members)
- 709 out of 947 completed all the sections.
- 53.1% of respondents were female, 25% graduated after 2000, and 50% graduated after 1990. 90.7% were endocrinologists.
- 42% usually deal with > 10 newly diagnosed Graves' patients/year.

Negro et al., Eur Thyroid J 2016;5:112–119

# Index case



**INDEX CASE:** A 42-yr-old woman presents with moderate hyperthyroid symptoms of 2 months duration. She is otherwise healthy, takes no medications, and does not smoke cigarettes. She has two children, the youngest of whom is 10 yr old, and does not plan on being pregnant again. This is her first episode of hyperthyroidism. She has a diffuse goiter, approximately two to three times normal size, pulse rate of 105 beats per minute, and has a normal eye examination. Thyroid hormone levels are found to be twice the upper limit of normal (free T4 = 3.6 ng/dl; normal range = 1.01-1.79 ng/dl), with an undetectable thyrotropin level (TSH < 0.01 mIU/liter).

***J Clin Endocrinol Metab 97:* 4549–4558, 2012**

# ATA hyperthyroidism management guidelines



- **Recommendation 1.**

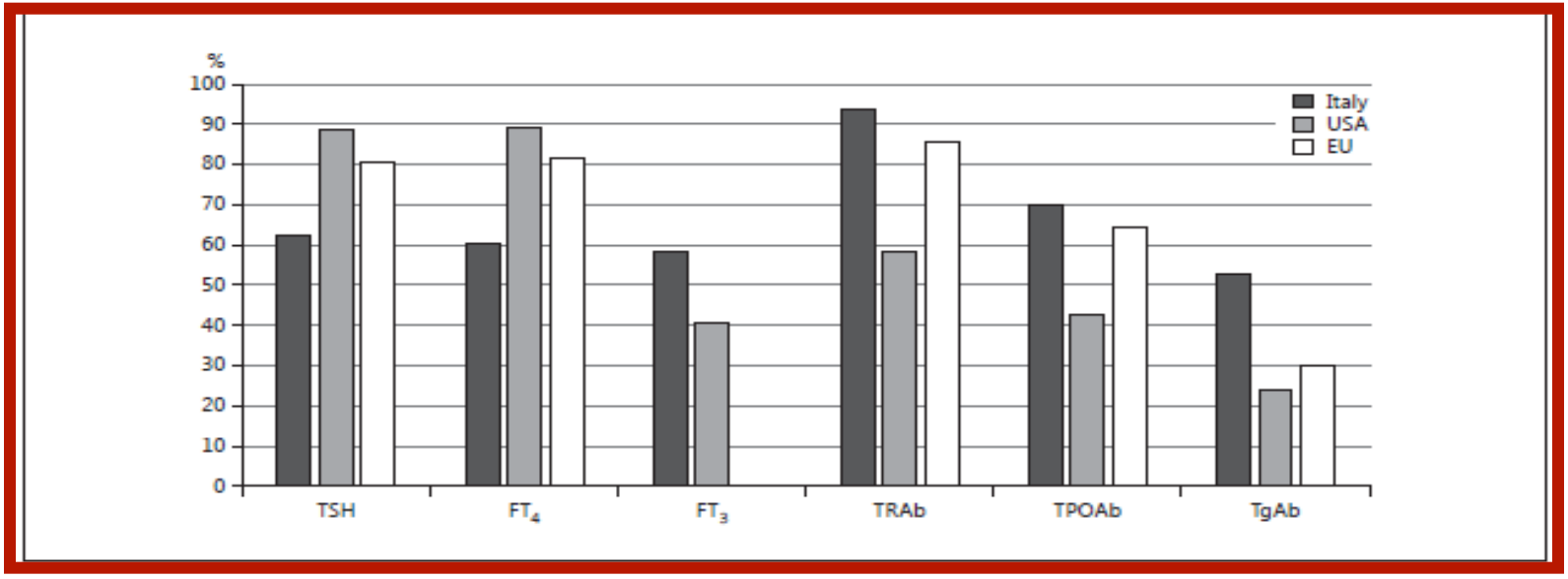
  If the diagnosis is not apparent based on the clinical presentation and initial biochemical evaluation, diagnostic testing is indicated and can include, depending on available expertise and resources, (1) measurement of TRAb, (2) determination of the radioactive iodine uptake (RAIU), or (3) measurement of thyroidal blood flow on ultrasonography.

  **Strong recommendation, moderate-quality evidence**

Ross et al., THYROID Volume 26, Number 10, 2016

# Diagnostic tests






Negro et al., Eur Thyroid J 2016; 5:112–119

# Hyperthyroidism: Q&As



- **TSH receptor antibodies: when and how?**

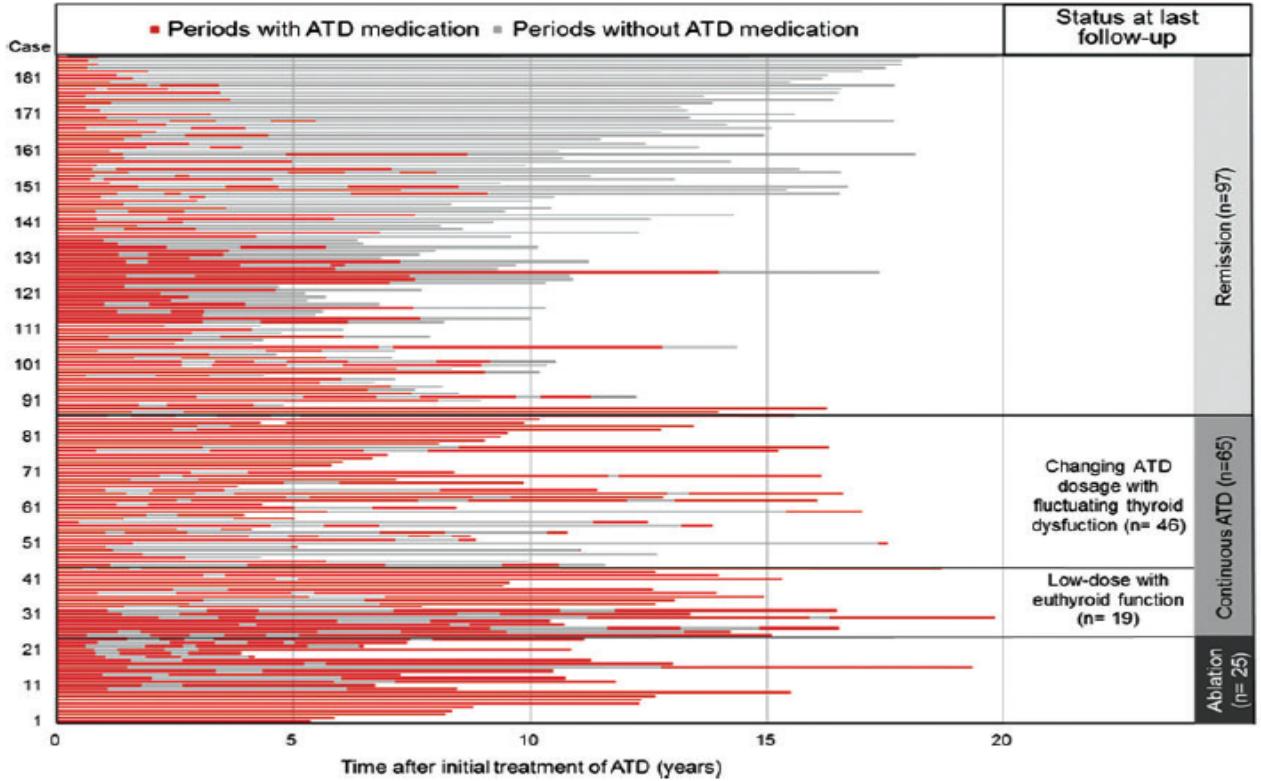
# Long term surveillance of ATD treated GD patients



- 11.1 years (range 4.0–23.7 years) of median follow-up.
- 51.9% remission.
- 32.1% continued ATD treatment.
- 13.4% underwent other treatments.
- The 10-year remission rates were higher in the first (34.2%) and second (25.5%) ATD courses

*Kim et al., Thyroid.* Apr 2017: 491-496.

# Clinical of course of ATD treated patients



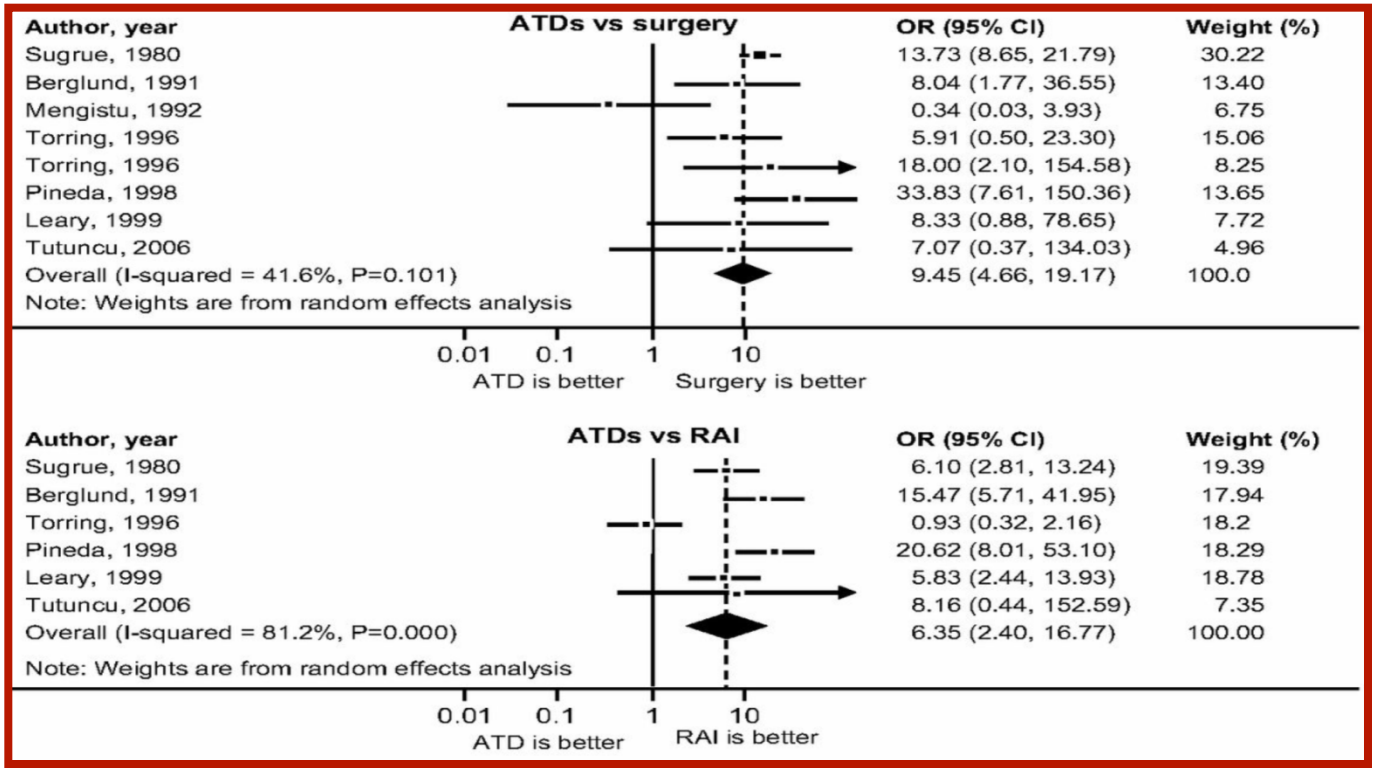

**Red sticks = periods of ATD treatment;**

**Gray sticks = periods without ATD**

*Kim et al., Thyroid.* Apr 2017: 491-496.

# Therapies for Graves' Disease: A Systematic Review and Meta-Analysis

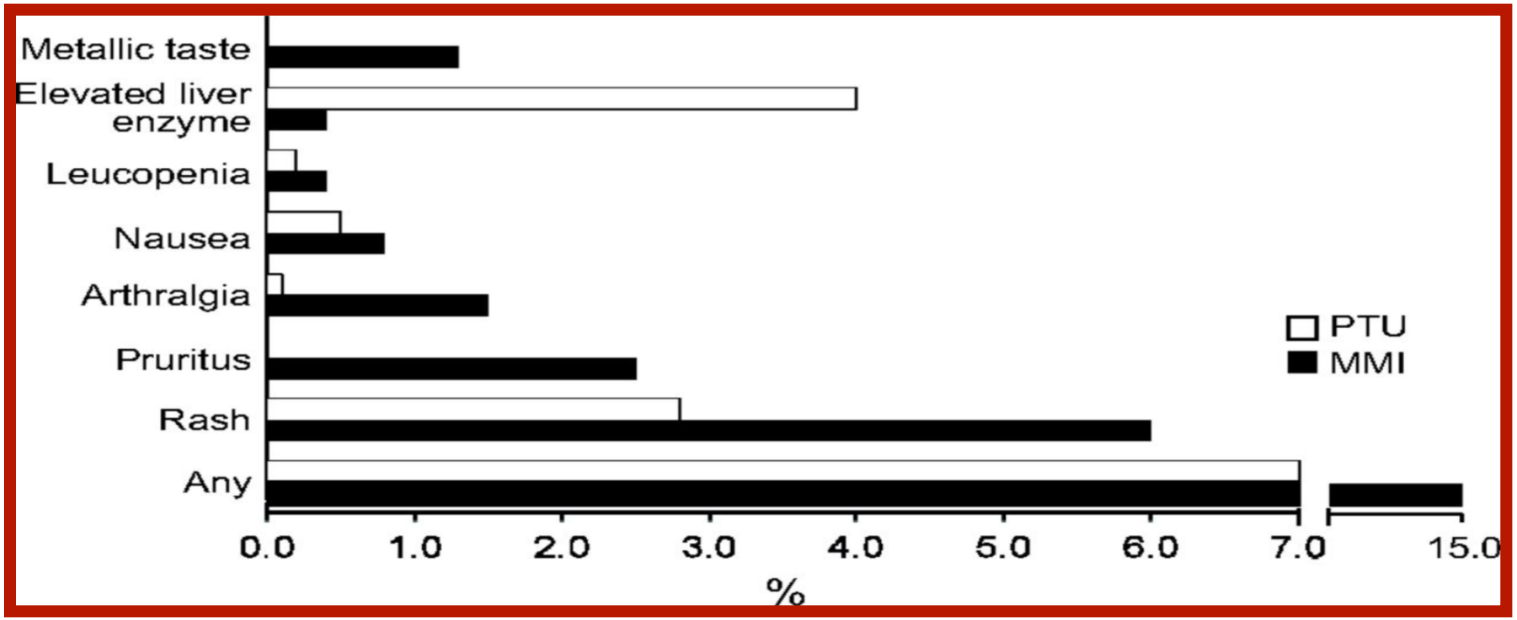





Sundaresh et al. JCE&M. 2013;98(9):3671-3677.

# Adverse effects of ATDs






Sundaresh et al. JCE&M. 2013;98(9):3671-3677.

# Hyperthyroidism: Q&As



- **Long term usage of antithyroidal drugs: is it a safe option?**

# How should overt hyperthyroidism due to GD be managed



- **RECOMMENDATION 3**

  Patients with overt Graves' hyperthyroidism should be treated with any of the following modalities: RAI therapy, ATDs, or thyroidectomy.

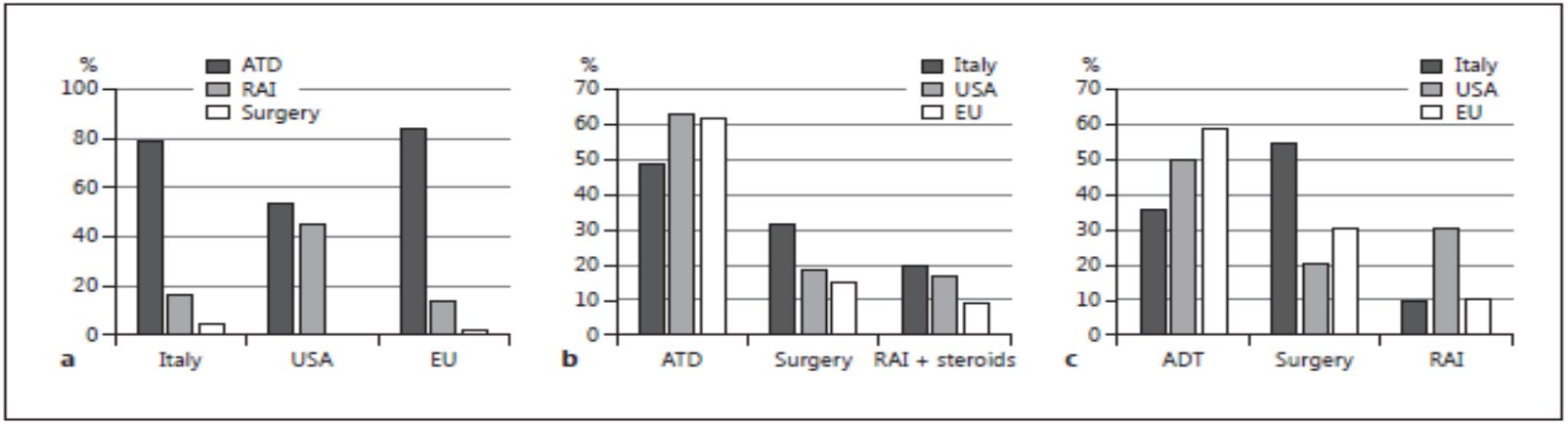
  ***Strong recommendation, moderate-quality evidence.***

Ross et al., THYROID Volume 26, Number 10, 2016

# Treatment options



**Index case (basic)** **GO** **Pregnancy**




Negro et al., Eur Thyroid J 2016;5:112–119

# Therapies for Graves' Disease: A Systematic Review and Meta-Analysis

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# Hyperthyroidism: Q&As



- **Thyroidectomy vs. radioiodine as the definitive solution**

# 2016 ATA Guidelines for Diagnosis and Management of Hyperthyroidism



- **RECOMMENDATION 80**
- ATD therapy should be used for overt hyperthyroidism due to GD during pregnancy. PTU should be used when ATD therapy is given during the first trimester. MMI should be used when ATD therapy is started after the first trimester.

***Strong recommendation, low-quality evidence***.

Ross et al., THYROID Volume 26, Number 10, 2016

# 2017 ATA Guidelines for the Diagnosis and Management of Thyroid Disease During Pregnancy and the Postpartum



- PTU is recommended for the treatment of maternal hyperthyroidism through 16 weeks of pregnancy.

**Strong recommendation, moderate-quality evidence.**

- Pregnant women receiving MMI who are in need of continuing therapy during pregnancy should be switched to PTU as early as possible.

**Weak recommendation, low-quality evidence.**

- If ATD therapy is required after 16 weeks gestation, it remains unclear whether PTU should be continued or therapy changed to MMI.

**No recommendation, insufficient evidence.**

Alexander et al., THYROID Volume 27, Number 3, 2017

# Hyperthyroidism: Q&As



- **Hyperthyroid pregnant patients: Methimazole or propylthiouracile?**

# Thank you for your attention!