

THYMIC HYPERPLASIA IN GRAVES' DISEASE - WAIT AND SEE, OR INTERVENE ?

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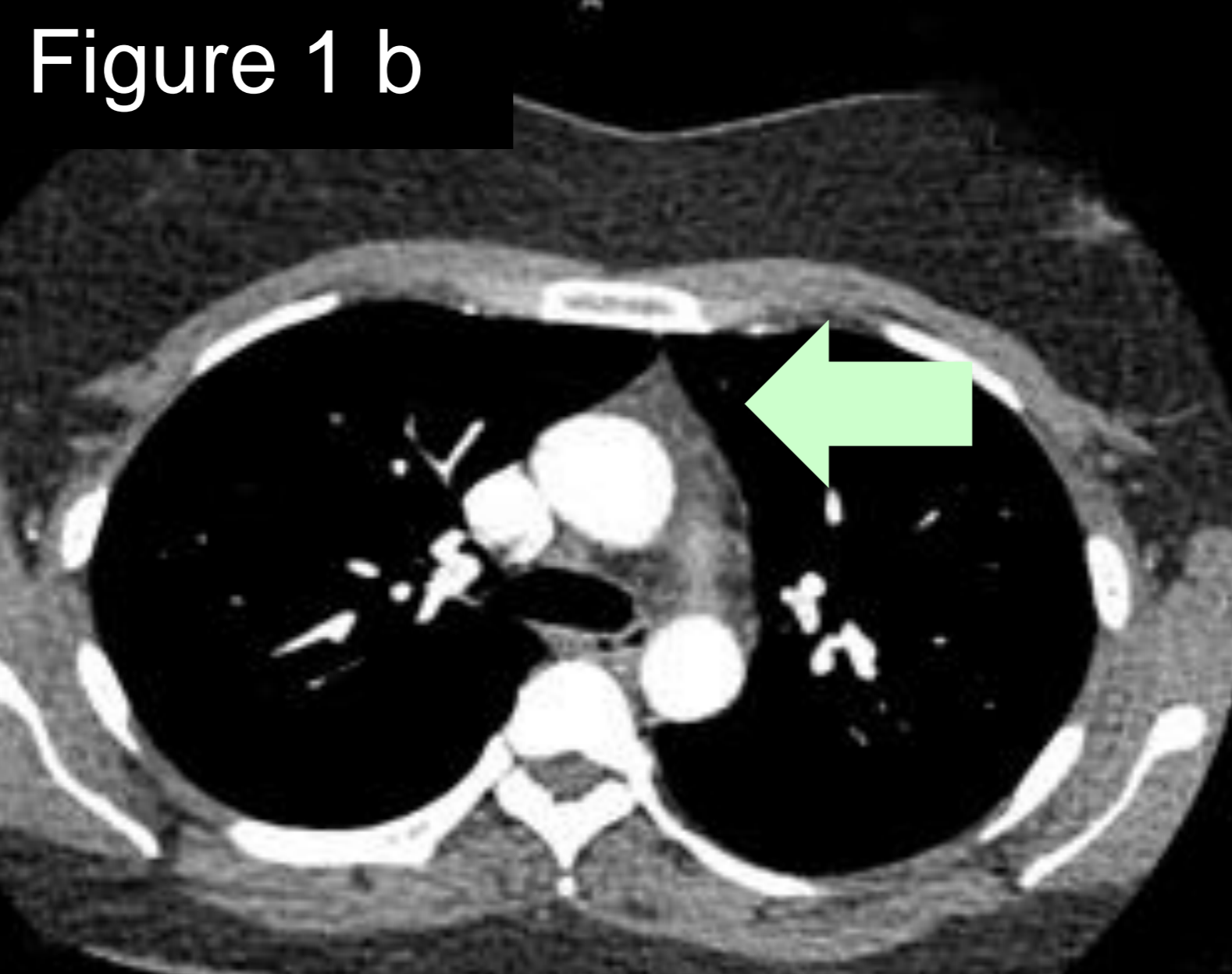
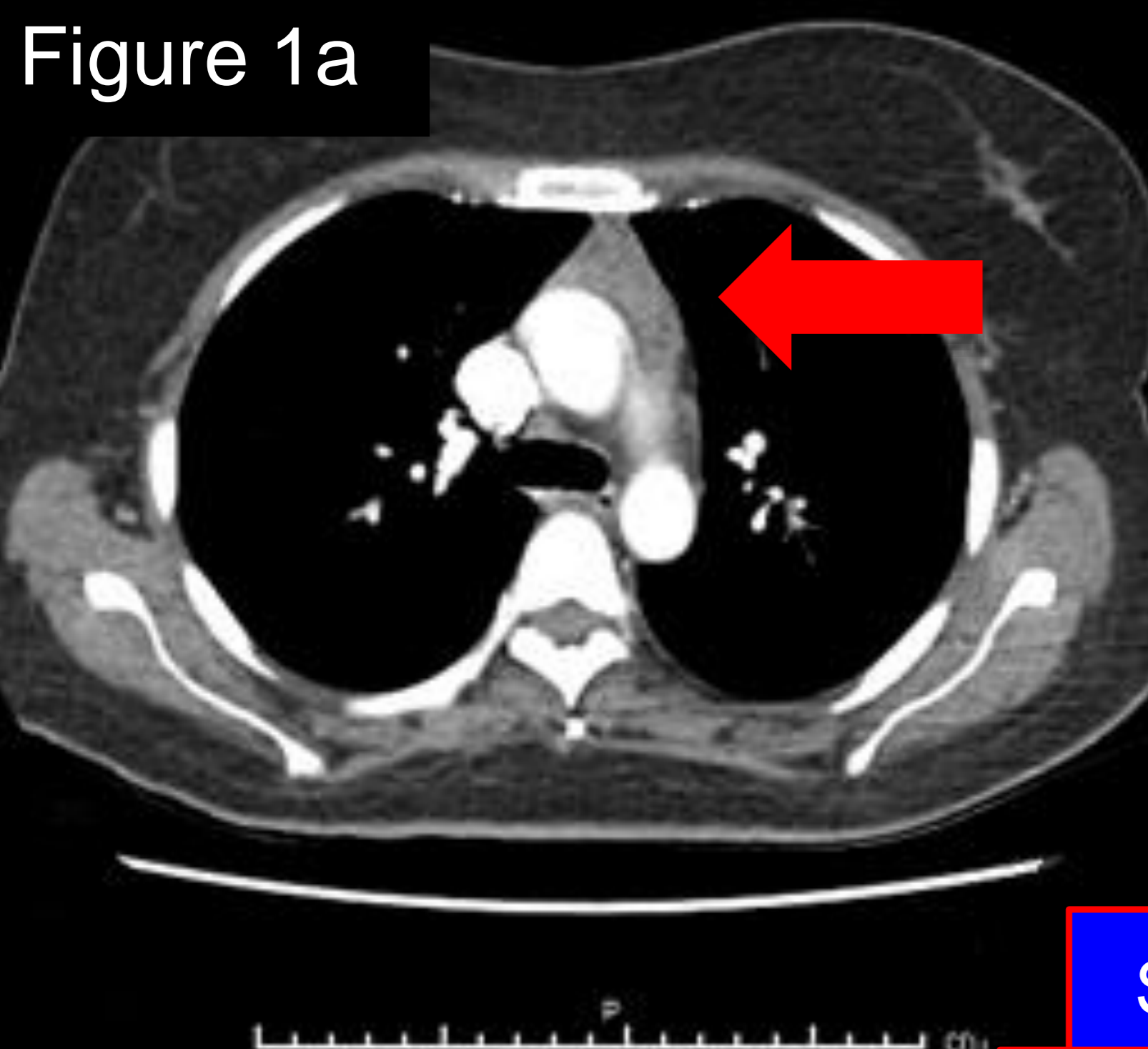
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Introduction and Case Presentation

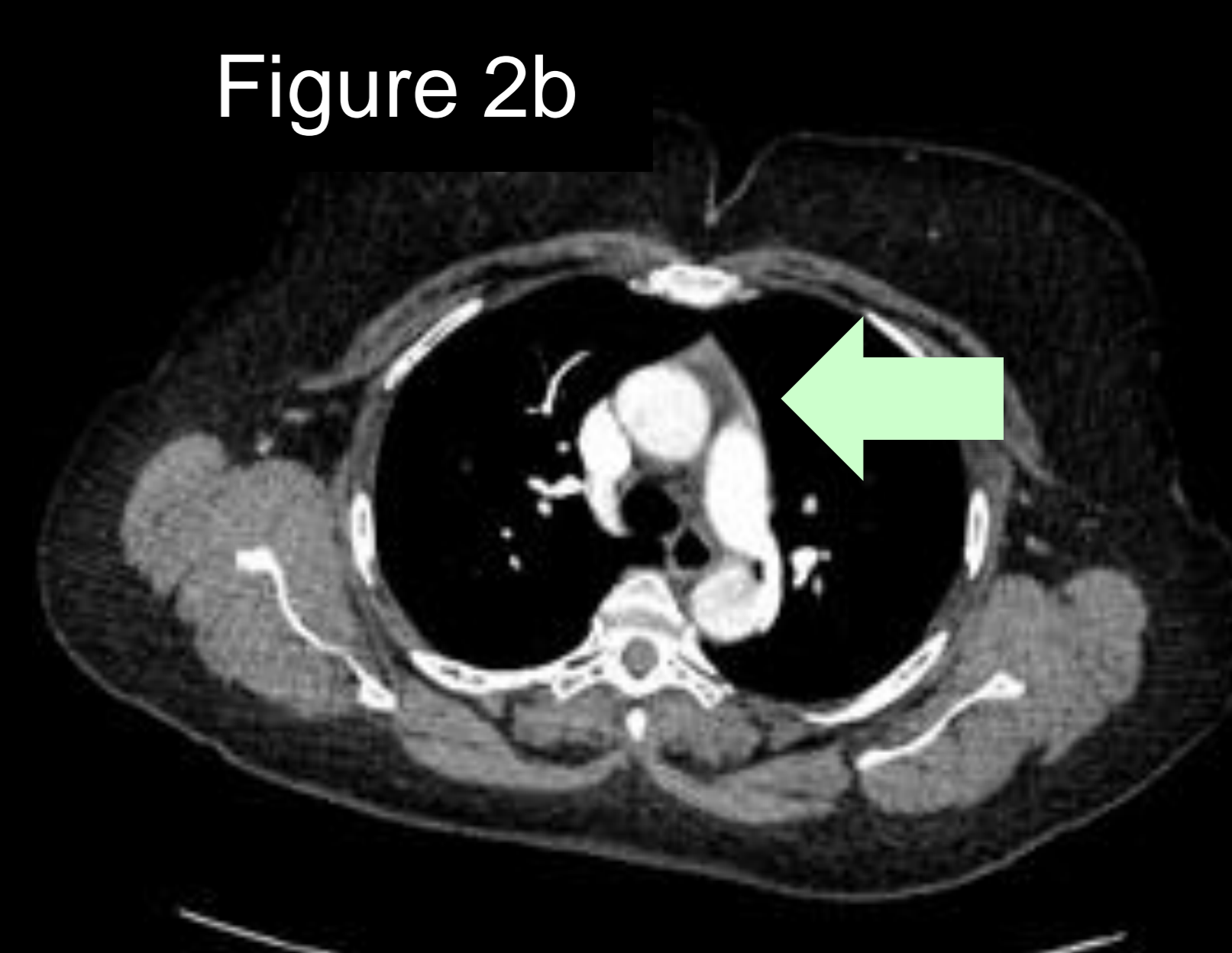
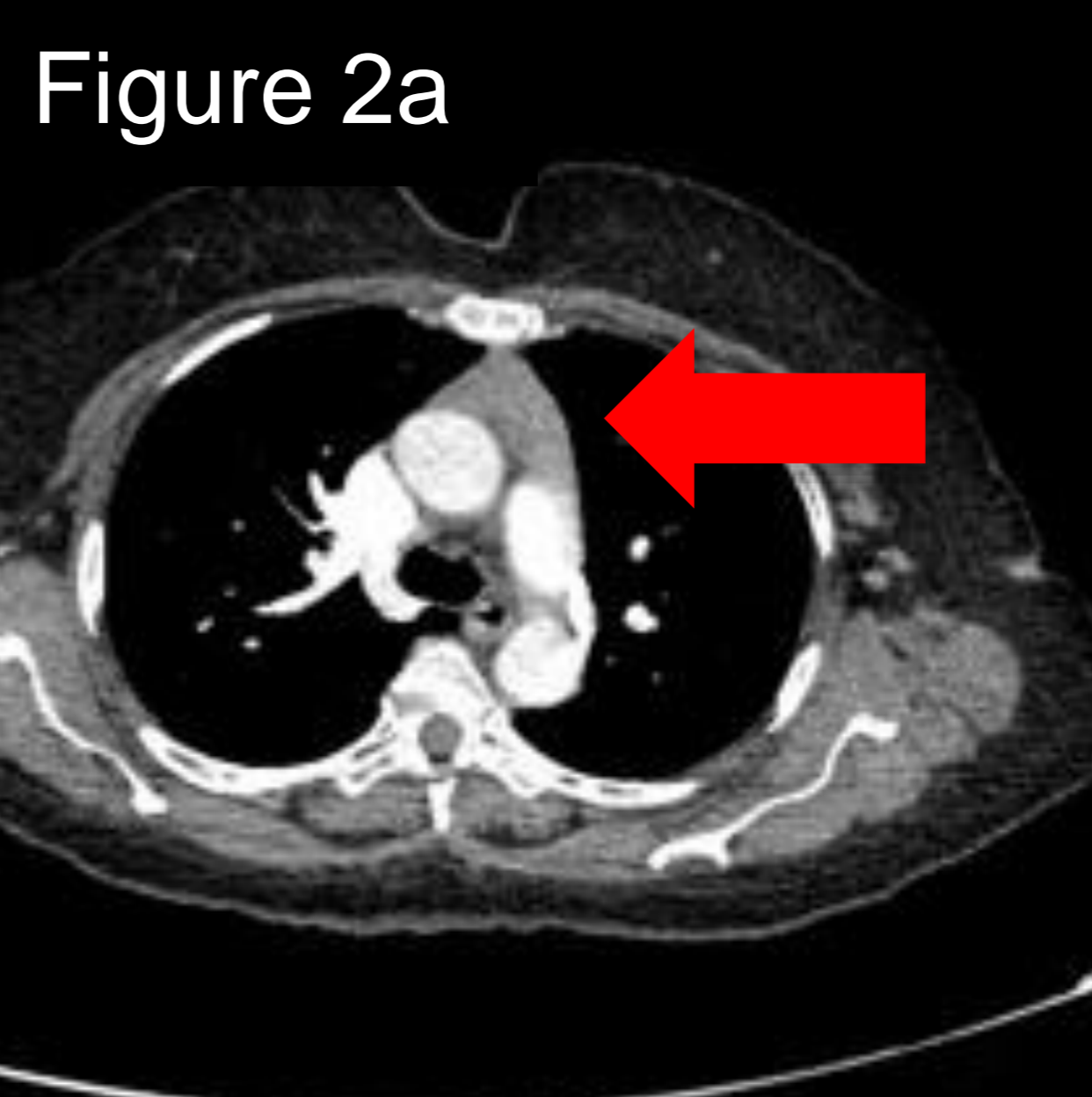
Thymic hyperplasia (TH) (figures 1, 2) occurs in autoimmune endocrine diseases such as Graves' disease (GD) and Addison's disease (AD) and is possibly related to its role in autoimmunity. Its true incidence is not known as thymic imaging is not undertaken routinely, and TH is usually diagnosed as a "thymic incidentaloma" in these conditions.

We present 3 subjects with TH complicating GD and AD, who were managed expectantly, without intervention.

Subject 1	Subject 2	Subject 3
<p>Clinical presentation</p> <p>37 year old female Osmotic symptoms ++, Weight loss - 5 stones Pulse 120, BP 121/81 lying; 99/70 standing Goitre, smooth, symmetrical, bruit +, No pigmentation</p> <p>Investigations, Diagnosis and Progress</p> <p>(a) free T3 > 46.1; free T4 - 59.5; TSH <0.01 (b) Thyrotrophin Receptor Ab (TRAb) - 25.5 (c) Corrected calcium 2.98; (d) PTH < 0.5 (e) Short Synacthen test – cortisol 305 (0min) and 343 (30min); Adrenal antibodies – positive (f) CT Thorax ABNORMAL (Figures 1a and 1b)</p> <p>GD and AD, presenting with hypercalcaemia</p> <p>Clinically and biochemically stable on carbimazole, hydrocortisone and fludrocortisone</p>	<p>36 year old female – seen in chest clinic Breathlessness, weight loss Referred to thoracic surgeons – CT abnormal Referred to Thyroid clinic - thyrotoxic</p> <p>(a) Free T3 – 17; free T4 32; TSH <0.02 (b) TRAb - 3.6 (after 7 months of treatment) (c) CT Thorax ABNORMAL (Figures 2a and 2b)</p> <p>GD – thoracic surgery postponed</p> <p>Stable on carbimazole</p>	<p>47 year old female Breathlessness + Chest pain Diagnosis - ? PE Weight loss, "Shakiness"</p> <p>(a) Free T3 – 6.7; free T4 18.7; TSH < 0.02 (b) TRAb – 4.5 (c) CTPA ABNORMAL (similar appearances to Fig 1a, 2a)</p> <p>GD - T3 toxicosis</p> <p>Stable on carbimazole</p>



Significant regression of thymus **



Significant regression of thymus **

Benign thymic hyperplasia (red solid arrows)

1. Arrowhead appearance
2. Sharp regular margins
3. No infiltration of organs
4. Isodense with muscles
4. No cysts / calcification

BOX 1

Discussion

- (1) Thymic hyperplasia in GD, is benign in the vast majority – CT scan appearances are helpful in differentiating between benign and malignant enlargement (Box 1)
- (2) There is evidence that the thymus regresses in the majority after treatment of GD
- (3) Interval scanning should be done several months after control of thyrotoxicosis
- (4) Two of our subjects had regression of their TH when GD was treated with thionamides (Figures 1b and 2b) – the third awaits interval scanning
- (5) We recommend that TH in GD should be managed expectantly with interval scans after 6 months of thionamide therapy, if initial scans confirm a benign morphology
- (6) Major surgery may thus be avoided in these metabolically fragile subjects