Goitre (Thyroid gland enlargement)

Aetiology:
- Thyroiditis
  - Subacute thyroiditis (de Quervain’s disease):
    - Rare
    - Associated with an influenza-like illness
    - Painful diffuse swelling of the thyroid
    - Thyroid antibodies may appear in the serum
    - Disease due to a viral infection and usually resolves (infrequently runs intermittent course)
  - Reidel’s thyroiditis:
    - Very rare
    - Unknown cause
    - Thyroid tissue replaced by dense fibrous tissue
    - Firm, painless swelling
    - Tracheal compression
    - Surgical decompression of trachea may be required
- Autoimmune thyroiditis (Hashimoto’s disease)
  - Aetiology:
    - Destruction of follicles by immunocompetent lymphocytes
    - Anti-thyroglobulin antibodies detected in serum
    - Histologically, there is marked lymphocytic infiltration around damaged follicles
  - Clinical features:
    - Patient usually euthyroid (thyrotoxicosis can occur)
  - Management:
    - Thyroxine
    - Thyroidectomy when symptoms of compression
    - NB surgery can be difficult due to inflammation & adhesion to surrounding structures (higher than usual risk of damage to recurrent laryngeal nerve)

Pathology:
- Non-toxic multinodular goitre
  - Aetiology:
    - Common
    - Occurs in areas of iron deficiency
    - Females > males
    - Nowadays rare due to iodized table salt
  - Clinical features:
    - Mostly asymptomatic
    - Can cause tracheal compression (particularly when retrosternal), leads to:
      - Dyspnœa, Stridor
      - Oesophageal compression may cause dysphagia
    - Rarely bleeding into a nodule may cause rapid enlargement & pain
    - Thyroid visibly enlarged
    - Multiple nodules palpable (sometimes only 1 nodule palpable giving impression of solitary nodule)
  - Management:
    - Thyroidectomy hemi or complete (if symptoms)
    - Thyroxine use occasionally prevents further enlargement by suppressing TSH

Investigations:
- Plain film (may reveal tracheal deviation)
- CT (show tracheal compression)
- T3, T4, TSH usually normal
- Ultrasound (useful to determine nature of nodules)

Solitary thyroid nodules
- Aetiology:
  - Slow-growing painless nodules are common
  - 50% turn out to be part of multinodular goitre
  - Of the true solitary nodules:
    - 50% are benign adenomas
    - The rest are cysts or differentiated cancers
- Clinical features:
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  - Can cause tracheal compression (particularly when retrosternal), leads to:
    - Dyspnoea, Stridor
    - Oesophageal compression may cause dysphagia
  - Rarely bleeding into a nodule may cause rapid enlargement & pain
- Management:
  - Cysts can be aspirated and provided they do not refill and cytology clear they need not be removed
  - Surgery required if aspiration reveals neoplasm
  - Thyroxine
  - Thyroidectomy when symptoms of compression
  - NB surgery can be difficult due to inflammation & adhesion to surrounding structures (higher than usual risk of damage to recurrent laryngeal nerve)
- Investigations:
  - Principle in investigation is USS guided FNA
  - This may be complemented by:
    - Thyroid function tests
    - Isotope scans

Physiological enlargement:
- Transient enlargement can occur during puberty or pregnancy

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Thyrotoxic goitre:
- Enlargement due to TSH or TSH-like proteins
- Increased production of T3 & T4 = thyrotoxicosis
- Combination of goitre & hyperfunction = indication for surgery

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Investigations:
- Diagnosis depends on demonstration of antithyroid antibodies
- Biopsy/cytology helps to confirm diagnosis

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