

DEFINITION

1. **Hyperthyroidism** is the term given to the syndrome which results from an excess of circulating thyroid hormone.

CLINICAL MANIFESTATIONS

2. The onset is characteristically gradual, often insidious, although it may be dramatic with florid manifestations appearing in the course of a few days. Almost all systems of the body may be affected, but the emphasis often falls more strikingly on one system.
3. Symptoms include loss of weight, often with a good appetite, fatigue, nervousness, increased sweating, intolerance of heat, palpitation, dyspnoea, weakness and diarrhoea. Prominence of the eyes with a feeling of grittiness or double vision may be noticed. Also a swelling of the thyroid gland (goitre) may be noticed by the patient or others.
4. Neuropsychiatric manifestations include nervousness, hyperactivity, emotional lability and occasionally psychosis or encephalopathy. Muscular weakness is frequent, sometimes with myopathy. Atrial fibrillation is common in the elderly. Gastrointestinal features may be severe enough to result in hyperemesis or steatorrhoea. Less common features include oligomenorrhoea or amenorrhoea in the female and gynaecomastia and loss of libido in the male.

AETIOLOGY

5. The vast majority (95%) of cases of hyperthyroidism fall into two groups -
 - 5.1. diffuse hyperplasia and hypertrophy (**Graves' disease**)
 - 5.2. toxic nodular goitre, the nodules being either single or multiple (**Plummer's disease**).
6. **Graves' disease** affects females more than males in the ratio of 5-7 to 1. It occurs at all ages with a peak incidence in the third and fourth decades. It is held to be a form of **autoimmune disease**. There is a genetic predisposition and the condition tends to run in families. Psychological stress has been postulated as a precipitating factor but the evidence for this is unconvincing.
7. The body's immune system provides an essential barrier to a large range of pathogenic organisms. **Autoimmune disease** occurs if the immune network response becomes directed at the body itself rather than at foreign antigens, and thereby causes damage to the body's tissues.
8. Most work on autoimmune disease and its mechanisms have been done in animals. Despite recent advances in the molecular biology of the immune response, the precise aetiology of autoimmune disease remains unknown. In humans genetic factors are thought to play a part. This is supported by studies of familial aggregation of the conditions, and high concordance in monozygotic twins. However concordance is not complete and therefore genetic factors alone are insufficient for disease to develop.

9. Environmental factors which have been postulated as producing disease in predisposed individuals include infection (viral and bacterial), drugs and toxins. However positive identification of specific factors in the individual conditions and cases is very rare.
10. Individuals with one autoimmune disease appear to be at increased risk of other autoimmune conditions. These further conditions do not arise as a consequence of the first, rather the common factor is the genetic predisposition.
11. The cause of **Plummer's disease** is not known. It tends to affect persons of an older age than Graves' disease.
12. Rare causes of hyperthyroidism include -
 - 12.1. thyroiditis. This may be subacute due to a virus (Coxsackie, mumps or adenovirus) or may be post partum.
 - 12.2. thyroid carcinoma
 - 12.3. excess thyroid stimulating hormone from various sources, include the pituitary gland.
 - 12.4. factitious hyperthyroidism. This is found in persons who consume excessive amounts of thyroid hormone; there is usually an abnormal psychiatric background.
13. The condition may be induced by iodine ingestion.

CONCLUSION

14. **Hyperthyroidism** is a condition which results from an excess of circulating thyroid hormone. There are various causes which have been listed above. In some instances, the cause cannot be established.

REFERENCES

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