

P.U.O. OF HORMONAL ORIGIN

Pages with reference to book, From 213 To 214

Sher Mohammad Khan Paindakhel (Nuclear Medicine, IRNUM, University Campus, Peshawar.)

Abstract

Endocrine mechanisms are important in thermoregulation and various hormonal disturbances can produce fever. Three patients whose dominant initial clinical feature was fever are reported. All of these patients had thyroid disorders.

Introduction

Normal body temperature is maintained by thermoregulation which is intricate homostatic mechanism. In infection, the fever results from raising of the hypothalamic "set point" which causes homeostatic mechanisms to raise body temperature (Atkins and Bodel, 1972; Dnarello and Wolff, 1978). Pyrexia in heat stroke, hypothalamic disorders, malignant hyperthermia of anaesthesia is caused by defective thermoregulation and diagnosis of these dramatic syndromes is not difficult. Endocrine mechanisms are also important in thermoregulation and various hormonal disturbances can produce fever. In this report, patients are described who had been labelled as cases of pyrexia of uncertain origin (P.U.O.) before endocrine cause was found out.

Case Reports

Case 1: A.H. 32 years old started running fever in October 1975. He was seen by many doctors and was given antimalarials, antibiotics and was treated for enteric fever but the low grade fever 99-100°F continued intermittently. He lost considerable weight and developed protrusion of the eyes in September 1976. The diagnosis became clear and he was referred to thyroid clinic for investigations. On investigations his four hours uptake was 70% (Normal 10-40%) and 24 hours uptake was 60% (Normal 20-66%), PBI-131 was 0.35% AD/Litre (toxic range is more than 0.2% AD/litre). He was put on carbimazole and propranolol to which he responded. Since that time he has been regularly followed in the outpatient and when seen in October 1979, clinically and radioisotopically he was euthyroid.

Case 2: G.M.D. age 53, retired colonel, developed fever and pain on swallowing in October 1978. The fever was accompanied by shivering. He was seen in the local hospital and put on antibiotics, but the fever did not subside. He was labelled P.U.O. until a physician noted tenderness over the thyroid gland and referred him to the thyroid clinic in December 1978.

On examination, he was tender over the left lobe of the thyroid. Four hours uptake was 9% (Normal 10-40%), 24 hours uptake was 18% (Normal 2-66%), PBI-131 was 0.6% AD/ litre (Normal less than 0.2% AD/Litre). Diagnosis of subacute thyroiditis was made because of pyrexia, tenderness over the thyroid gland, low uptake and diminished radioactivity over the left lobe on scanning of the thyroid. He was put on prednisolone to which he responded and the fever subsided. He was seen again in December 1979 and repeat investigations showed normal thyroid function test.

Case 3: In September 1979, a 50 years old lady (mother of a lady doctor) started having fever accompanied by chills. She also gave history of general malaise, pain in front of the neck radiating to both jaws, right ear and upper sternal region. In spite of antibiotics and other treatment, the fever continued for three weeks and she was labelled as P.U.O. until enlargement of the thyroid was noted by her daughter (a lady doctor) and she was brought to the thyroid clinic.

On examination, her thyroid gland was slightly enlarged and tender. On investigations, her Hb was

10G, W.B.C. was 8,300, E.S.R. was 55. Four hours uptake was 10% and 24 hours uptake was 7%. PBI-131 was not estimated. T3 was 0.85 Omg/ml (Normal 0.85-3 Omg/ml). T4 was 15.0 ug/100 ml (Normal 4.4-15.3 ug/ 100 ml). She was put on prednisolone and the fever subsided. When seen again in December 1979, she had no fever.

Discussion

These patients represent diseases of the thyroid (Thyrotoxicosis, subacute thyroiditis) in which fever was the dominant feature; all these patients were initially suspected of having infectious diseases like malaria, enteric fever and upper respiratory tract infections. In all these patients thyroid disease was responsible for fever. Thyroid hormone is known to be calorogenic but the precise mechanism is not known. It may be related to stimulation of the membrane bound iodine potassium ATPase (sodium pump) (Ismail-Beigi and Edelman, 1970). Fever in subacute thyroiditis is due to the inflammation of the thyroid gland as evidence by the pain, tenderness and high ESR and response to anti inflammatory agents.

The true incidence of fever in thyroid diseases is not known but is probably low. Fever due to infectious diseases is quite common in Pakistan, but thyroid disorders should be included in the differential diagnosis of pyrexia of uncertain origin (PUO).

References

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