RAISED SERUM THYROXINE IN PATIENT ON HÆMOPHILIA THERAPY

SIR,—Increased total serum thyroxine concentrations due to an increase in thyroxine-binding proteins are sometimes encountered in conditions such as pregnancy or as a genetic variant.[1] We would like to report a further clinical setting in which a superficial assessment of thyroid function might lead to a mistaken diagnosis of hyperthyroidism.

A 15-year-old boy with classical hæmophilia had his thyroid function tested because his thyroid gland was palpable. His serum thyroxine was 15·4 μg/dl (normal 4·5–11·0). Upon re-evaluation his thyroid gland was of normal size and he was clinically euthyroid, but on five occasions his serum total thyroxine ranged from 13·0 to 19·8 μg/dl while his serum triiodothyronine ranged from 101 to 189 ng/dl (normal 80–170). His serum TSH was <1·5 μU/ml and there were no detectable thyroid anti-microsomal antibodies. Following intravenous administration of thyrotropin-releasing hormone (7 μg/kg) his serum TSH rose to 6·0 μU/ml, a response which suggested that his free serum thyroxine level was not abnormal. His resin T_3 binding ratio was 1·20 (normal serum pool 1·0), his serum TBG binding capacity was 27 μg/dl (normal 15–23), and his serum free thyroxine was 2 ng/dl (normal 0·8–2·5).

He had been receiving injections of cryoprecipitate twice a week (800–1200 units per year) over five years for prevention and treatment of hæmarthroses. The cryoprecipitate continued thyroxine-binding proteins with a TBG capacity of 27 μg/dl and a T_3 resin binding ratio of 0·97. The total serum thyroxine concentration of this material was 2·3 μg/dl and the calculated free thyroxine was 1·0 ng/dl. We suggest that recurrent administration of cryoprecipitate should be added to the list of factors which may increase serum thyroxine-binding proteins and lead to a faulty diagnosis of thyrotoxicosis.

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INFECTIOUS MONONUCLEOSIS AND ACUTE MONOCYTIC LEUKÆMIA

SIR,—Several cases of lymphoproliferative disorder associated with infectious mononucleosis and genetic and/or immunological features have been reported.[2-5] Some cases have progressed to malignant lymphoma.[6,7] As far as we know, progression of infectious mononucleosis to leukæmia has not been described. We report two patients in whom serologically confirmed infectious mononucleosis is associated with definite (case 1) and probable (case 2) acute monocytic leukæmia.

Case 1.—This 72-year-old previously healthy man had fatiguability, weakness, loss of appetite, sore throat, and pain in the fingers and wrists for about four weeks. On Oct. 30, 1978, he was afebrile and generally well except for an enlarged liver of 14 cm in the mid-clavicular line (MCL). No lymph nodes and no spleen were palpable. Laboratory tests on Oct. 23 had shown a leucocytosis of 17 900/μl with 35% neutrophils, 12% bands, 3% metamyelocytes, 7% lymphocytes, 42% monocytes, and 1% basophils. Serum creatinine was 2·0 mg/dl, uric acid 7·3 mg/dl, and total serum protein 8·3 g/dl with 58·6% albumin, 3·2% α_1, 5·9% α_2, 9·2% β-globulin, and 23·2% globulin. All other laboratory tests, including alkaline phosphatase, bilirubin, and transaminases, were normal. Repeat blood count on Oct. 30 revealed 24 600/μl leucocytes with 31% neutrophils, 20% bands, 3% metamyelocytes, 1% myelocytes, 9% lymphocytes, 3% eosinophils, 1% basophils, and 33% monocytoid, atypical mononuclear cells. Serological tests for EB virus gave the following titres: IgG against VCA 1:512, IgM against VCA 1:16, IgG against EA 1:20, IgG against EBNA negative. No antibodies against hepatitis, ECHO, coxsackie, or rubella viruses were detected. Sonography showed a normal-sized spleen and a liver of 12 cm in MCL. A chest X-ray was unremarkable. He became febrile and thrombocytopenic and on Nov. 7, was admitted to another hospital. He was jaundiced, his pulse-rate was 116/min, his blood-pressure was 110/70 mm Hg. The liver was 16 cm in MCL, the spleen was not palpable. The leucocytes had risen to 98 000/μl with more than 90% atypical mononuclear cells; platelet-count 21 000/μl. Creatinine was 2·7 g/dl, uric acid 10·2 mg/dl, bilirubin 3·4 mg/dl and transaminases slightly raised. Bone-marrow aspiration showed monocytic leukæmia with 76% immature monoblasts containing many nucleoli, large cytoplasmic vacuoles, and a fine chromatin pattern, almost no mature neutrophils, reduced erythropoiesis, and reduced numbers of megakaryocytes. Soon after admission he went into shock, with left upper quadrant pain. Splenic rupture was suspected. Therapy with vincristine and cytarabine was started. 4 days later he went into shock again. He had had a large hæmorrhage into the peritoneal cavity, compatible with splenic rupture. Intravascular coagulation and paralytic ileus developed, and the patient died from severe hæmorrhagic diathesis on Nov. 20, 1978. Permission for necropsy was refused.

Case 2.—This 71-year-old previously healthy woman complained of malaise, fever, and a painful lump in her right axilla for several weeks. Examination on Oct. 26, 1978 showed an obese patient with a normal sized liver non-palpable and spleen. There was a cherry-sized lump in the right axilla. Her Hb was 10·4 g/dl; leucocyte count 8 600 with 8% neutrophils, 23% bands, 36% lymphocytes, and 33% monocytes. Total serum protein was normal: other proteins—47·5% albumin, 5% α_1, 10% α_2, 10% β, and 27·5% γ-globulin. The ESR was raised; creatinine was 1·9 mg/dl; uric acid 12·4 mg/dl. All other laboratory values were unremarkable. During the next 2 weeks her Hb dropped to below 8 g/dl. Bone-marrow aspirate taken on Nov. 9 showed acute monocytic leukæmia. Serological tests for EB virus gave the following titres: IgG against VCA 1:256, IgG against EA negative, IgM against VCA 1:32, IgG against EBNA negative. 2 weeks later titres were IgG against VCA, 1:128, IgG against EA 1:4, IgM against EBV (VCA) negative, and IgG against EBNA negative. No antibodies against mumps, cytomegalovirus, or adenoviruses were detected. Histological examination of the enlarged lymph-node from the right axilla was unremarkable. 6-mercaptopurine and prednisone were withdrawn after 20 days because of leucopenia and thrombocytopenia. The thrombocytopenia persisted, the white-cell count reached 70 000 and the dysproteinæmia worsened. Bone-marrow picture on Dec. 20 was unchanged. She died on Dec. 28, of a cardiac arrest. Necropsy was not permitted.

In both cases the diagnosis of recent infectious mononucleosis infection was established by EBV serology. Both patients had acute monocytic leukæmia (the hæmatological features will be published elsewhere). Since infectious mononucleosis in

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6. Purtilo DT. Epstein-Barr-Virus-induced oncogenesis in immune-deficient individuals. *Lancet* 1980; i: 300–03.
7. Robinson JE, Brown N, Andiman W, et al. Diffuse polyclonal B-cell lymphoma during primary infection with Epstein-Barr virus. *N Engl J Med* 1980; **302:** 1293–97.

the elderly and monocytic leukæmia are both rare conditions, the coincidence of these two conditions suggests a causal relationship. This relationship has not been reported before probably because the clinical features of monocytic leukæmia generally have not suggested infectious mononucleosis, and therefore serological tests were not done. As a differential diagnosis a fulminating infectious mononucleosis masquerading as acute monocytic leukæmia (D. Purtilo, personal communication) should be considered also. However, because of normal Ig levels and positive esterase reactions this is most unlikely. In future serological tests for EBV should perhaps be done in patients with acute monocytic leukæmia.

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DISAPPEARING URINE COLLECTION

SIR,—The collection of complete 24 hour urines is notoriously difficult. We wish to report the loss of one such collection in an unusual way.

A man taking part in a study of the effect of nifedipine on blood pressure and sodium balance visited Henley upon Thames. Whilst sitting next to his half-full urine collection by the bank of the river he was approached by a rower who was either celebrating his victory or drowning his defeat. The oarsman asked him eagerly if the 3 litre plastic bottle contained beer. On being told that it contained urine, he promptly kicked it into the river. It was last seen floating down the midstream of the Thames. The volunteer had been asked to restrain from violent exercise as this might interfere with the sodium balance. He considered that pursuit of the bottle or the oarsman would fall into this category.

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Commentary from Westminster

Harlow on Health

WILL the claim that only socialism can make the nation healthy form part of the Labour Party's platform at the next general election? One of the resolutions tabled for debate at the Party's annual conference (starting Sept. 29) states that "even with better finances the N.H.S. still has an impossible task to perform because bad health is endemic to the capitalist system we at present live under. Only a socialist transformation of society can provide the conditions for the prevention of ill-health when preventive medicine becomes a reality".

When health is debated at the Conference the discussion is likely to be on a motion composited from the many submitted on the subject, with the composite meant to represent the general tenor of the health resolutions. Conference managers could do worse than work on the basis of the resolution quoted above, which comes from the Harlow constituency of Tribune Group M.P. Mr Stan Newens. It also contains nearly all the suggestions put by other constituencies for solving our health difficulties. It calls for reversal of all public spending cuts; building of more health centres and hospitals with renovation of the old ones; abolition of private practice; abolition of all health charges; nationalisation of the pharmaceutical industry; and introduction of "democratic control of the N.H.S.". The score of resolutions submitted on health do not stray far from the path mapped out by Harlow, although the emphasis is placed differently by different constituency parties. From various areas come demands for the banning of the weedkiller 2,4,5-T, stronger measures to curb lead pollution, special extra funding for kidney machines, and methods of penalising private medicine before its abolition. One resolution calls on the next Labour Government to "prohibit private health insurance organisations (such as BUPA) and to incorporate all their medical facilities and all staff wishing to transfer into the N.H.S.". Since these bodies are non profit-making, the resolution archly adds, "no question of compensation arises".

Certainly abolition of private practice and of all health charges are basic articles of faith for Labour's rank and file, to judge by the resolutions. Rhetorical reference to the "handiwork of Aneurin Bevan" and to the "callousness" or "ruthlessness" of the present administration are de rigeur. The Conference will, of course, end up voting overwhelmingly for a motion very much on the Harlow model; and many delegates may leave Blackpool feeling they have helped to set the next Labour Government on the road to creating an N.H.S. that Aneurin Bevan would have been proud of. But the more thoughtful delegates will realise they have committed a future Labour Government to nothing. Such people will remember that Bevan himself was an exponent of constructive compromise, and they will realise there are two reasons why no Labour administration is likely to adopt the apocalyptic approach advocated by Harlow, even if it has the imprimatur of the full Conference.

The first reason involves practicalities and personalities. Labour M.P.s, and especially those who follow health matters, know full well that they could not afford to abolish health charges at a stroke. It was a lesson learned very early on by the 1974 Wilson Government. Similarly they are well aware that the total abolition of private practice is also a non-runner. Those who, in office, have dealt with the medical profession know that doctors would not take it lying down; those who have their eyes and ears open know that the public would not accept it; and those who can count know that not even a Labour Government with a big majority could get such legislation through the Commons.

There is, besides, a more thoughtful approach to the whole subject on the part of the Party's official spokesmen than emanates from the rank and file. Shadow Health Minister, Mr Roland Moyle, for one, has been prompted to review the success of Aneurin Bevan's handiwork by the report from Sir Douglas Black and his colleagues (see this column, Sept. 6). Mr Moyle is driven to the conclusion that the Labour Party has been mesmerised by the party political fight with the Conservatives, while "the gap between working class standards of health and upper and middle class standards of health has failed to narrow over thirty years". Closing this gap "must become one of the major priorities of the Labour Party's health policy", says Mr Moyle. He does not believe this can be achieved, in the real world, by simply implementing the Harlow resolution.