SHORT REPORTS

Chronic myeloid leukaemia associated with impairment of hearing

Loss of hearing is a rare complication of chronic myeloid leukaemia.[1 2] We describe the occurrence of varying degrees of impairment of hearing in nine out of 44 Nigerian patients with the disease.

Patients, methods, and results

Chronic myeloid leukaemia was diagnosed in the usual way based on clinical and laboratory findings including total and differential white cell counts. Cytogenetic analysis was not routinely available. The diagnosis of hearing disorders was based on the history given by the patient as well as on findings of routine physical examination. In addition, audiometric studies were performed when indicated, and these were repeated at intervals when possible. In order to evaluate the influence of anaemia and severity of hyperleucocytosis at the time of occurrence of hearing impairment, each patient with an auditory complication of chronic myeloid leukaemia was matched according to age, sex, and state of the disease—that is, whether in a "steady" or accelerated phase—with control patients suffering from the disease but who did not have clinical evidence of a hearing problem. Relevant laboratory data were compared by the usual statistical methods.

Eight of the nine patients with auditory problems were clinically and haematologically in the chronic phase of their disease at the time that the problem occurred. Comparison of the packed cell volumes and white cell counts of these patients (table) with those of the controls showed no significant difference in median packed cell volumes (0·24 *v* 0·33; $p > 0·05$) but a significantly higher median white cell count in the group with impaired hearing ($434·0 \times 10^9$/l *v* $257·0 \times 10^9$/l; $p < 0·05$). Three of the five patients with moderate hearing impairment who were followed up long enough during chemotherapy showed a remarkable subjective improvement in hearing associated with a reduction in the peripheral white cell count to the range $10·0-20·0 \times 10^9$/l; in the remaining four patients, however (cases 2, 5, 6, 7), profound deafness persisted despite similar satisfactory haematological control.

Comment

We have described auditory disturbances ranging in severity from mild to profound loss of hearing occurring in nine of 44 Nigerian patients with chronic myeloid leukaemia who presented either at an advanced stage or after prolonged lack of control of the disease.

It appears most likely that the uniformly associated high degree of leucocytosis (table) is a major predisposing factor in the pathogenesis of this complication. The role of severe anaemia, which was present in six of our patients (table), is less clear. Hyperleucocytosis may lead to the formation of leucocyte thrombi and failure of the microvasculature,[3] which for unknown reasons manifested in our patients as auditory impairment and also as cerebellar ataxia (case 2), priapism (case 4), and "organic brain syndrome" (case 7). The central role of the physical characteristics of the leucocytes[4] concerned in the leucostasis is underscored by the fact that none of 34 patients with chronic lymphocytic leukaemia who had white cell counts in the same range as our nine patients with chronic myeloid leukaemia manifested any signs of leucostatic syndromes.

Although chronic myeloid leukaemia is largely incurable, its effective control with chemotherapy usually ensures a reasonably good quality of life for about three to five years in most cases.[1 2] Owing to socioeconomic and, in some cases, cultural factors Nigerian patients with chronic myeloid leukaemia present at very late stages of their disease[5] and often are unable to receive regular chemotherapy. Of all the disabilities suffered consequently, loss of hearing appears to be the most distressing to the patient: early diagnosis and effective control of the disease, as in many developed countries, should reduce its occurrence in the future among Nigerians.

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Seroconversion of human T cell lymphotrophic virus III (HTLV-III) in patients with haemophilia: a longitudinal study

Patients with haemophilia are at risk for the acquired immunodeficiency syndrome (AIDS). They have a high prevalence of antibody to human T cell lymphotrophic virus III (HTLV-III) compared with control populations,[1] although few have so far developed AIDS.[2] As part of a surveillance programme on AIDS we studied a group of patients with haemophilia for clinical and immunological features associated with the syndrome.[3] We correlated our findings with the time from onset of HTLV-III infection in each patient, as determined by retrospective antibody studies.

Methods

We studied 30 patients who had received factor VIII treatment within five years. Twenty nine (male) had haemophilia A, and one (female heterozygote) had been treated for postoperative bleeding. One man had

Clinical and laboratory profile of patients with chronic myeloid leukaemia developing various degrees of impairment of hearing

Case No	Age and sex	Packed cell volume*	White cell count ($\times 10^9$/l)*	Platelet count ($\times 10^9$/l)*	Disease phase	Manifestation of vascular stasis
1	50 F	0·19	249·0	Reduced†	Chronic	Partial deafness
2	25 M	0·40	310·0	302·0	Chronic‡	Profound deafness, unsteadiness of gait
3	66 F	0·24	434·0	Reduced†	Chronic‡	Moderate deafness
4	34 M	0·23	470·0	44·0	Chronic	Tinnitus, mild deafness, priapism
5	41 F	0·14	572·0	Normal†	Chronic‡	Profound deafness
6	25 M	0·15	306·0	Normal†	Blastic crisis in relapse‡	Profound deafness
7	42 F	0·43	448·0	650·0	Chronic‡	Profound deafness, psychiatric disorder—organic brain syndrome
8	30 F	0·18	540·0	75·0	Chronic	Dizziness, tinnitus, mild deafness, unsteadiness of gait
9	58 F	0·35	200·0	290·0	Chronic	Tinnitus

*Values at time of presentation with impairment of hearing.
†Counts not done.
‡Deafness occurring after protracted default on follow up.