plasma. But, in fact, aggregation remains abnormal for many days. Thus the persistence of the ASA-induced inhibition is presumably due to an aspirin effect on megakaryocytes. Thus the observed duration of ASA-induced inhibition cannot be taken to measure directly platelet survival or turnover; nevertheless, it must presumably be related to the survival time.

A short recovery time then presumably indicates a rapid turnover, with a disproportionate number of young platelets. Thus these findings apparently support the hypothesis that when there are many young platelets the MPV will be large. Although there are no doubt many exceptions, nevertheless it would appear that in appropriate situations (and these have not yet been delimited) the finding of a large MPV may suggest an increase in platelet turnover.

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5q− Acute Myelogenous Leukemia

To the Editor:

Recently, we have described five patients with refractory anemia, a slight excess of myeloblasts in the bone marrow, and an apparently identical chromosome marker appearing only in the bone marrow and identified as a deletion of the long arm of a No. 5 chromosome.[1,2] These patients are still being followed, their clinical picture remains unchanged, the abnormal 5q− clone is still confined to the bone marrow, and no additional changes are present. We now describe five new patients with the same 5q− chromosome anomaly, but with an otherwise different clinical and cytogenetic picture.

The first patient was a 59-yr-old male of Italian extraction who had vague gastrointestinal complaints for many years. During his first admission in 1967 no specific lesions could be demonstrated, but the bone marrow was not investigated. Over the years his complaints remained unchanged except for increasing fatigue. During the past summer he was admitted because of anorexia and a weight loss of 10 kg. This time he was found to have moderate anemia with a hyperactive and sideroblastic erythroid series, poorly lobulated megakaryocytes, and an excess of myeloblasts (19%) and monocytoid cells (12%) in the marrow. The peripheral blood showed thrombocytopenia and 10% immature cells. Cytogenetic investigations showed that in the bone marrow, as well as in the unstimulated peripheral blood, a cell clone was proliferating, characterized by the 5q− marker chromosome, plus additional numerical and structural anomalies, involving chromosomes No. 3, 6, 9, 15, and 17–19. The same anomalies were consistently found on four repeat studies, of which one was done a few days before he died of subacute myelogenous leukemia.

The second patient, a female born in 1897, was never seriously ill, but her more recent medical history was unknown. She was admitted in extremely poor physical condition, and died from septic shock five days later. She had classical acute myelogenous leukemia, and the cytogenetic investigations of the bone marrow and the peripheral blood showed the 5q− marker plus additional chromosome changes, involving chromosomes 7, 8, 13, 17, and 22.

The third patient, a female born in 1905, also presented with myelogenous leukemia and was known to have had neutropenia and recurrent infections for at least 1 yr. In the marrow, as well as in the unstimulated peripheral blood, the 5q− anomaly plus a supernumerary chromosome 21 were present. Treatment with 6-mer-

captopurine resulted in a partial remission, during which some normal cells, as well as cells with 5q− as the only anomaly, were found. This finding may indicate that the 5q− was the anomaly initially present, and that the 21 trisomy arose during further karyotypic evolution.

The fourth patient was a 13-mo-old boy who was phenotypically and mentally normal. The diagnosis of acute myelogenous leukemia was established after a short prodromal period of 2 wk, during which fever and lymph node enlargement were noted. The characteristic 5q− anomaly was found in 100% of the cells in both bone marrow and unstimulated peripheral blood, and in 60% of the cells a trisomy 8 was also present.

The fifth patient, a 72-yr-old female with a history of chronic refractory anemia, was found to have a marked excess of myeloblasts (49%) in the marrow and some immature cells in the peripheral blood. The characteristic 5q− anomaly, plus additional anomalies involving chromosomes 4–6, 9, 17, and 21, were found in the marrow and the unstimulated peripheral blood.

The additional chromosome anomalies in the five patients were of a rather diverse nature. The 5q− anomaly was the only constant anomaly they had in common; it was present in 100% of the bone marrow metaphases and in the unstimulated peripheral blood cells. Moreover, the site of the deletion and the amount of deleted material of the No. 5 chromosome were indistinguishable from the previously reported cases with 5q− refractory anemia.

It seemed logical, therefore, to assume that we were dealing with the same characteristic chromosome anomaly, and that it can be found associated with an acute myelogenous leukemia. This conclusion was obvious for three of the five patients. Two patients did not present with an acute disorder. Their conditions clinically bore a close resemblance to the refractory anemia of the five patients previously reported, but the blast excess was more pronounced and there were immature elements in the peripheral blood which showed the 5q− marker. Those patients may have gone through a transitional state between refractory anemia and a subacute or acute myelogenous proliferative process.

It is thus likely that the 5q− syndrome terminates in acute myelogenous leukemia. If this thesis is confirmed, a close analogy between the 5q− syndrome and Ph_1 positive CML may become apparent: both myeloproliferative disorders are characterized by an initial chronic phase, sometimes of long duration, during which as a rule only the characteristic chromosomal anomaly is present, followed by an acute terminal phase with the characteristics of acute myelogenous leukemia. This acute transformation is preceded or accompanied by further karyotypic evolution. A full report on the clinical and cytogenetic data in these patients will be published later.

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