A Case of Hypernephroma Presenting as Thrombocythaemia

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A case of hypernephroma is described who presented 4 years earlier with thrombocythaemia with a platelet count of over 2 million/c. mm. He had clinical features of idiopathic thrombocythaemia but had normal bone marrow and a raised ESR suggesting that thrombocythaemia was not primary or idiopathic but secondary to the asymptomatic renal carcinoma.

Key Words: Hypernephroma; Thrombocythaemia; Normal bone marrow; Raised ESR.

Persistent thrombocytosis (platelet count around 400,000/c.mm.) occurs in chronic myeloid leukaemia, polycythaemia, following splenectomy, Hodgkin's disease, rheumatoid arthritis, splenic vein thrombosis and in cases of malignancy.¹⁻⁴⁾ Thrombocythaemia (platelet count over 1 million/c. mm.) is found in cases of haemorrhagic or idiopathic thrombocythaemia and only occasionally in cases of malignancy.⁵⁾ So far it has not been reported in association with hypernephroma. We present a case of hypernephroma who presented four years earlier with thrombocythaemia with a platelet count of greater than 2 million/c. mm.

CASE HISTORY

A 58-year old blacksmith presented in November, 1969 with tiredness and dyspeptic symptoms. A barium meal performed confirmed that he had a duodenal ulcer. A routine blood count revealed haemoglo-

bin of 9.6g/1000ml., white cell count of 16,000/c.mm. and a platelet count of 2 million/c.mm. Associated with these he had raised ESR varying from 25-75mm/hr. and a sternal marrow showing an increased number of normal looking megakaryocytes. None of the pathological findings of idiopathic thrombocythaemia were obvious in the bone marrow. The only positive finding on examination was a mass in the left hypochondrium. This was diagnosed as an enlarged spleen.

He was given symptomatic treatment for his duodenal ulcer and started on pyrimethamine 25mg. daily for his thrombocythaemia. Initially there was a good response and the platelet count fell to 240,000/c.mm. (Fig. 1). In April, 1970, six months after treatment was begun, the patient developed megaloblastic anaemia as a result of his pyrimethamine therapy. This responded to folic acid supplements with good effect. At about the same time he had a severe

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Fig. 1. The clinical and haematological course of the patient.

epistaxis and altogether required a transfusion of five units of blood. By May, 1970, thrombocythaemia became apparently resistant to pyrimethamine and the platelet count rose to 1,800,000/c.mm. (Fig. 1) and remained at this level until September, 1972 when the level reached 3,500,000/c.mm. At this point treatment with busulphan was started. In December, 1971 a chest x-ray and a plain abdominal x-ray were reported as normal but in retrospect it appears that an abnormal renal shadow on the left side was present.

In November, 1973 the patient was found to have an easily palpable large left kidney and I. V. pyelogram suggested a hypernephroma. A chest radiograph at that time showed a presence of large number of round shadows suggestive of metastases. In view of these findings he was transferred to the Renal Unit where a renal angiogram confirmed the presence of hypernephroma and an immediate left nephrectomy was undertaken. Histology of the removed kidney showed it to contain a large clear cell

carcinoma. Following nephrectomy the platelet count, which was although not very high (350,000/c.mm.), fell to 300,000/c.mm. (Fig. 1). The liver scan performed during this admission showed an enlarged liver with evenly distributed radioactive colloid and a normal size spleen. The patient made an uneventful postoperative recovery and he was allowed home a week later. However, in spite of additional treatment with provera 100mg. q. d. s. he gradually deteriorated and died in coma three months later.

DISCUSSION

The association of malignant disease with a raised platelet count was first reported as early as 1872 by Riess.⁶ The incidence of this association has varied in different reports from occurring "occasionally"⁴ to occurring in 40% of tumours.¹ According to Lewis⁷ the association seems to have no unusual predilection for a specific tumour except adenocarcinoma of pancreas. Levin and Conley,² however, showed that tumours of stomach, lung, colon and ovary were commonly associated with raised platelet count than other tumours. In the majority of the cases reported in the literature, the platelet count is less than 1 million/c.mm. and in a report by Silvis et al.³ only one patient out of 190 cases of brochogenic carcinoma had a platelet count of greater than 1 million/c.mm. As far as we can tell no case of hypernephroma has been described in association with thrombocythaemia.

The mechanism of thrombocytosis or thrombocythaemia is not clear. It has been, however, suggested⁸ that the tumour may release a thromopoietin-like substance which causes an increased production of platelets.

We report this case because of its unique characteristics. It may be argued that this patient had two separate malignancies, but the raised ESR when the idiopathic thrombocythaemia was first diagnosed with the absence of histological bone marrow features of idiopathic thrombocythaemia suggest that he did not have idiopathic

thrombocythaemia. The fall in platelet count following nephrectomy (Fig. 1) also support this conclusion. In retrospect the abnormal abdominal x-ray of October, 1971 also suggests that the renal carcinoma was probably present all along, and although asymptomatic was responsible for the thrombocythaemia.

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