Splenectomy in Idiopathic Thrombocytopaenic Purpura

by Dr. Narinderpal Singh
MBBS, MRACP,
Hospital Besar, Kangar,
Perlis.

IDIOPATHIC THROMBOCYTOPAENIC PURPURA is generally treated initially by conservative methods. When these fail, or if the side-effects of drug therapy are severe, splenectomy is considered. The author would like to recount 3 cases of Idiopathic thrombocytopaenic purpura that were treated by splenectomy and discuss the indications for surgery in each case.

Case No. 1:

The patient, a 13 year old Siamese girl, was admitted to the Gynaecological ward on 19.12.72 with a history of bleeding PV for the preceeding 13 days. The flow had been excessive for 4 days prior to admission and this was her reason for hospitalisation; it was also her first period. She was transfused two pints of blood and given 100 mgm testesterone propiorate intra-muscularly. With this regime, she improved and her bleeding PV stopped. Four days later, she developed severe bleeding from the gums and purpuric spots all over the body. She was transferred to the medical unit where she was noted to be pale and having a liver 2 finger-breadths enlarged below the costal margin. The spleen was not palpable.

The following were the results of relevant investigations done on her: Hb: 30%; TWDC: 5,900/c.mm. P_{67} L_{21} E_{10} M_2; Platelet Count: 40,000/c.mm; Bleeding Time 1 min; Clotting Time: 3 min; Hess's Test: Negative; LE cells: Negative; Liver Function Test: Normal. A full blood picture showed evidence of iron deficiency anaemia and thrombocytopaenia. Bone-marrow examination revealed changes compatible with a diagnosis of Idiopathic Thrombocytopaenic Purpura. This diagnosis was finally adhered to, as the author could not elicit a cause for a secondary thrombocytopaenic purpura.

The patient was put on Tablet Prednisolone 15 mgm tid and her bleeding gums and purpura stopped initially. However, she later developed bleeding gums again off and on, though she did not develop fresh purpuric spots. Her platelet count constantly hovered between 40 to 90 thousand per cubic millimetre while she was in the ward. She was discharged after a month from the ward, but on follow-up, her platelet count remained low (70,000/c.mm) and she still had frequent bleeding from the gums. After 4 months of conservative therapy with steroids, she was advised to undergo splenectomy.

At operation, under steroid cover, she was noted to have an enlarged spleen as well as two splenecules; these were also removed. The patient's platelet count rose to 230,000/c.mm 10 days after operation; the prednisolone was tapered off completely. On histology, the spleen showed enlargement and hyperactivity of the lymphoid follicles and mild neutrophilic and eosiniphilic infiltrates in the pulp.

The patient has been followed up after operation. She is now free of any bleeding tendencies, though her platelet count has dropped to 100,000/c.mm.

Case No. 2:

The second patient was a 24 year old Malay man who was admitted to the wards in October 1972 with an eight month history of repeated attacks of epistaxis. On clinical examination, no significant

findings were noted. There was no purpura or bruising, though a mild degree of this did develop later on.

The following investigations were done: Hb: 90%; TWDC: 10,350/c.mm. P_{49} L_{36} E_4 M_{11}; Platelet Count: 90,000/c.mm; Clotting Time: 3 minutes; Bleeding Time: 1 minute. The Full Blood Picture was normal except for a reduced number of platelets. Bone Marrow studies were compatible with a diagnosis of Thrombocytopaenic Purpura. X-rays of the chest, skull and facial sinuses were normal. No cause could be found for his thrombocytopaenia, and it was therefore regarded as Idiopathic.

He was put on Tablet Prednisolone 10 mgm tid. He improved somewhat, but his epistaxis never really stopped. Moreover, his platelet count was mostly below 100,000/c.mm on repeated follow-up, though on a few occasions it did touch normal. After 6 months of steroid therapy, he had developed marked Cushingoid features.

He was advised splenectomy, to which he agreed. At operation, the spleen was found to be normal in size. A single splenecule was found in the colonic mesentery, and this was also removed. On histology, the spleen showed fibrous thickening of its trabeculae and congestion within its pulp. The lymphoid follicles were not increased in size or number and the germinal centres were conspicuous.

The patient made an uneventful recovery. His platelet count rose to 300,000/c.mm soon after the operation, but fell to about 190,000/c.mm later. He has been off steroids since then, and has not had any attacks of epitaxis so far.

Case No. 3:

The third patient was a 52 year old Malay woman who had been having purpura, bruising and haemoptysis off and on for about 10 years. All through this period, except for one hospital admission when she had been given prednisolone, she had never really taken any proper treatment. She first came under the author's care in January 1973. She presented with the symptoms listed above. On clinical examination, she had purpuric spots and areas of bruising; otherwise, no positive findings were noted.

Her investigations showed: Hb: 12.3 gm%; TWDC: 15,200; P_8 L_{18}; E_1 M_1; Platelet Count: 30,000/c.mm; X-ray Chest: Normal; Sputum for AFB: Negative; LE cells: Negative. Her full blood picture was normal except for reduced platelets. Her Bone Marrow showed changes compatible with Thrombocytopaenic Purpura.

She was put on Tablet Prednisolone 15 mgm tid. Her haemoptysis stopped and her purpuric spots disappeared completely. Later, however, she developed purpura again in spite of high doses of prednisolone. Moreover, she developed marked Cushingoid features also. She agreed to undergo splenectomy and the operation was performed in April 1973. The spleen was enlarged and of normal histology except for widely separated lymphoid follicles.

She recovered well from surgery except for a mild wound infection. Her platelet count rose to 300,000/c.mm soon after surgery, but a few months later, dropped to between 110,000 to 160,000/c.mm. After operation, she has been off steroids completely. There is no more bruising, but she did have 1 episode of very mild haemoptysis recently.

Discussion:

In addition to the general supportive measures like blood and platelet transfusion, administration of steroids and splenectomy are the two main-stays of therapy in Idiopathic Thrombocytopaenic Purpura. The general teaching is that the disease is usually self-limited in children and therefore does not usually need splenetomy. In adults, however, the disease is often chronic, and splenectomy is more frequently indicated.

The author has presented these cases to illustrate the need for splenectomy in three different age-groups. In the first case, though the patient was adolescent, splenectomy had to be performed as the platelet count remained very low in spite of prolonged steroid therapy.

In the second case, the patient's epistaxis, which could be severe and prolonged at times, did not abort in spite of high doses of steroids. He had marked Cushingoid features after several months and it was felt better to perform a splenectomy than suffer prolonged steroid toxicity.

The third case was, of course, a classic indication for splenectomy. The patient was elderly and she had a long history of the disease; moreover, a trial of steroids did not produce complete relief of symptoms; all these factors were in favour of performing a splenectomy.

An interesting point that must be borne in mind is that splenectomy does not always relieve the symptoms. Pre-operatively it may be predicted that 80% of patients under 45 years of age will

respond well to splenectomy; in those above this age, there is only a 50% response rate. Secondly, the patients who respond well to steroids will benefit by splenectomy if this is indicated; in these who do not respond to steroids, about 50% will benefit from splenectomy. Post-operatively, the patients who show a rise in platelet count soon after the splenectomy, will generally respond well to this procedure. However, in many cases, the platelet count will fall to pre-splenectomy levels, but the patient will still show a relief of symptoms. One of the causes of a failed splenectomy is the presence of splenecules that are missed at operation.

In the present series, it is interesting to note that the two younger patients did not have any recurrence of symptoms after splenectomy. The elderly lady, however, did have an episode of haemoptysis after operation, although she has no more purpura or bruising. The first patient's platelet count has dropped to low values, but she is still symptom- free.

Splenecules were removed from two of the patients and this probably has played an important role in ensuring the success of the operation.

Conclusion:

The author has presented three cases of Idiopathic Thrombocytopaenic Purpura in different age groups who have been treated by splenectomy. This operation is a safe one for patients who require it and promotes their safety and well-being.

Acknowledgements:

The author would like to thank the following:

(1) Mr. T. N. C. Roe, Consultant Surgeon, Hospital Besar, Alor Star, for performing the operations on all the patients.

(2) The Director – General of Medical Services, Malaysia, for permission to publish the paper.

References:

1. Cecil – Loeb, 13th Edition, 1971: Text-book of Medicine.
2. de Gruchy, D. C.: 3rd Edition, 1970: Clinical Haemotology in Medical Practice.
3. Price's Text Book of Medicine, ELBS Edition, 1973.