Indications

Since the specific therapy for the group of diseases that require splenectomy is often in a state of flux and since some of the conditions are complicated by problems of coagulation, it is important that the indications and timing for surgery be worked out in close cooperation with an experienced hematologist. Splenectomy is generally indicated for patients with hereditary anemias (spherocytosis, elliptocytosis, nonspherocytic hemolytic anemia), primary hypersplenism, and chronic idiopathic thrombocytopenic purpura. Patients with autoimmune hemolytic anemia, secondary hypersplenism, thalassemia, myelofibrosis, chronic lymphatic leukemia, and lymphoma also may benefit from splenectomy in selected situations.

Until recently splenectomy was a routine part of the staging procedure for patients with Hodgkin’s disease, but this is no longer universally accepted.

Primary splenic tumor
Splenic abscess
Splenic cysts, parasitic and nonparasitic

Under unusual circumstances, a large number of other diseases may be benefited by splenectomy, such as Gaucher’s disease, sarcoidosis, Felty’s syndrome, Neimann-Pick’s disease, and Fanconi’s syndrome.

Preoperative Care

Consult with an experienced hematologist concerning blood coagulation factors in the patient and the careful cross-matching of an adequate quantity of blood. For patients with thrombocytopenia, preparations should be made to have platelets and other coagulation factors on reserve. Do not administer the platelets prior to ligating the splenic artery in patients with thrombocytopenia as the platelets will be promptly destroyed.

Insert nasogastric tube prior to operation.

Administer perioperative antibiotics. Remember that in patients with giant splenomegaly, portal hypertension, and pancytopenia (as may occur in myelofibrosis), preoperative occlusion of the splenic artery by transcatheter infarction of the spleen may be accomplished in the angiography suite (Levy, Wasserman, and Pitha). Splenectomy should be performed promptly after completion of the splenic artery occlusion, as necrosis of the spleen and sepsis are otherwise likely to occur.

Pitfalls and Danger Points

Intraoperative hemorrhage
Postoperative hemorrhage
Injuring the greater curvature of the stomach
Splenectomy for Disease

Injuring the pancreas

Operative Strategy

Postoperative sepsis, especially in immunologically impaired patients
Failure to remove accessory spleen

Avoiding Intraoperative Hemorrhage

Perhaps the single most important method of avoiding serious intraoperative bleeding is to be sure that the exposure is adequate for each step of the operation. For the large spleen, this requires a long incision, although it is rarely necessary to perform a thoracic extension. Frequently, the use of a chain retractor to elevate the left costal margin will greatly improve exposure.

A second important method of avoiding the laceration of a major vein is the meticulous dissection and individual ligation of each of the important vessels. When performing splenectomy for hematological disorders, we prefer to isolate the splenic artery as the first step in the splenectomy. The splenic artery may be approached from the lesser curvature portion of the stomach by entering the lesser sac at this point. An alternative approach is to divide the gastrocolic omentum, thereby exposing the upper border of the pancreas. When the splenic artery is ligated before manipulating the spleen, it will be noted that a large spleen frequently diminishes considerably in size and thus makes the dissection safer.

Patients with portal hypertension, as in myelofibrosis, also require clamping and ligating of the splenophrenic and splenorenal ligaments.

Avoiding Pancreatic Injury

The greatest risk of injuring the tail of the pancreas occurs when the splenic blood supply is being ligated and divided at the hilus of the spleen. When carrying out this step, it is important clearly to identify the tail of the pancreas and to divide the blood vessels without injuring the pancreas. If each clamp contains only a blood vessel and not other tissue, then the pancreas will not be crushed by a large hemostat. Nor will it be transected inadvertently.

Avoiding Trauma to the Stomach

During the course of clamping and dividing the short gastric vessels it is easy—especially when a large spleen is being removed—to include the wall of the gastric greater curvature within a hemostat aimed at a short gastric vessel. In other situations, the serosa of the stomach may be denuded during the process of dissecting out these

Preventing Postoperative Hemorrhage

At the conclusion of the splenectomy, it is important to achieve complete hemostasis in the bed of the spleen, especially along the tail of the pancreas, the left adrenal gland, and the posterior abdominal wall. Some of the bleeding points can be controlled by electrocoagulation; others require clamping. Bleeding from the tail of the pancreas almost always necessitates the insertion of fine suture-ligatures on atraumatic needles because the blood vessels tend to retract into the pancreatic tissue. If there is diffuse oozing due to inadequate platelets or other coagulation deficiencies, it may be necessary after the spleen is removed to administer platelets, fresh frozen plasma, and other coagulation factors. After administering these substances and testing the blood for various coagulation deficiencies, continue to observe the operative site until the bleeding stops. Do not simply insert a few drains and close the abdomen. The latter course will often lead to the development of a large hematoma in the left upper quadrant. Some of these hematomas may become infected and cause a subphrenic abscess.