

*The Risk of Sepsis in the Asplenic Adult**

BARRON J. O'NEAL, M.D., JOHN C. McDONALD, M.D.

From the Department of Surgery, Louisiana State University Medical Center, Shreveport, Louisiana

The risk of postsplenectomy sepsis in children is well established. The risk of sepsis following splenectomy in the adult remains unknown. This study provides data on this important subject. All adults (ages 16–91) who underwent splenectomies in three hospitals of the Louisiana State University Medical Center between 1965 and 1975 were identified. There were 298 patients included in the study. Postsplenectomy information was collected on 256 patients. The mean period of observation was 45 months (960 patient years). There were seven deaths from fulminant sepsis (incidence rate: 2.7%). Data were collected on 250 patients who had either a gastrectomy or cholecystectomy without splenectomy. The mean period of observation was 61 months (1270 patient years). There were no deaths due to fulminant sepsis ($p < 0.05$). When postsplenectomy sepsis was compared with the risk of sepsis in the population at large (0.001%), the difference is significant ($p < 0.001$). In the subgroup of 69 patients with hematologic or malignant disease, there were three deaths from sepsis (4.3%). In 187 patients with no underlying diseases, four patients developed sepsis, which is an incidence of 2.2% ($p < 0.05$ when compared with the population at large and control group). The risk of sepsis appears to be greater in patients with chronic disease, but has no relationship to age. These data speak for the conservation of splenic tissue when possible.

IN 1952 KING AND SCHUMAKER suggested that children who had undergone splenectomies were at risk for the development of bacterial infections.¹ This risk in the pediatric population has been confirmed by others.² While isolated case reports of postsplenectomy sepsis in adults have been reported, little information is available concerning the incidence of this complication in adults. This retrospective review was undertaken in order to identify this risk in a random population of adults following splenectomy.

Materials and Methods

The hospital records from January 1, 1965 to December 31, 1975 at the Louisiana State University

Medical Center in Shreveport, the Veterans Administration Hospital in Shreveport, and the E. A. Conway Memorial Hospital in Monroe, Louisiana were reviewed and 298 postsplenectomy patients were identified. Forty-two patients were excluded from the study either because they died in the immediate postoperative period or because they were followed for less than one month after their operation. As a control group, 100 charts of patients who underwent gastric operations and 150 charts of patients who underwent cholecystectomies at the Louisiana State University Medical Center during the same time period were also reviewed. Information regarding infection and further hospitalization was obtained by a review of the clinic records, by questionnaires mailed to the last known address of each patient, and/or by telephone contact of patients or relatives. Thus, 256 asplenic patients were followed for an average of 45 months, and 250 surgery patients who retained their spleen were followed for an average of 61 months. The term "postsplenectomy sepsis" for the purpose of this review is defined as septicemia documented by positive blood cultures occurring months to years following removal of the spleen.

Results

The splenectomy group consisted of 97 white and 159 black patients, 181 patients were male and 75 were female. The patients ranged in age from 16 to 91 years, with an average of 41 years. The control group consisted of 95 white and 155 black patients, 93 were male and 157 were female. These patients ranged in age from 20 to 94 years with an average age of 50 years.

Indications for splenectomy were divided into two general categories. Trauma necessitated surgery, in 74% of all patients. In this group, splenectomy was performed in association with other operations in 23% of the patients. Splenic injury in the course of gastric sur-

* Prize winning essay of the Surgical Association of Louisiana for the best research performed by a surgery resident. Presented in part at the annual meeting of the Surgical Association of Louisiana, November 15, 1980, New Orleans.

Reprint Requests: Barron J. O'Neal, M.D., Department of Surgery LSU Medical Center, Shreveport, Louisiana 71130.

Submitted for publication: May 1, 1981.