Study Title: Long-term Effect of Splenectomy on Metabolism, a Retrospective Cohort Study

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Study protocol

A list of patients who had gone through trauma splenectomy or bowel resection due to bowel obstruction in our center between July 2008 and July 2013, was made. Patients were divided into two groups: trauma splenectomy (exposed group) and bowel resection (unexposed group).

All patients were followed up for 5-10 years.

Our study criteria was as follows:

Exclusion criteria:

1. Disturbed lipid profile at the time of surgery, 2. Disturbed blood glucose levels at the time of surgery, 3. History of high blood pressure prior to surgery, 4. Use of any hyperglycemogenic agent during the follow up period, 5. BMI>= 25 at the time of surgery, 6. History of diseases potentially affecting blood glucose, e.g. hyperthyroidism, Cushing syndrome, 7. Accidental pancreatic damage during surgery, 8. Resection of >10 cm of small bowel and 9. History of malignancy or radiotherapy (criteria 8 and 9 were specific to unexposed group).

Patients were contacted through phone calls. Of the 243 splenectomized patients, 90 patients who met our study criteria were willing to participate. Of 152 patients with bowel resection, 64 were willing to participate. Records of patients at the time of surgery were retrieved from hospital archive of patients' records. Patients were invited to an office meeting for assessment of blood pressure, BMI and a general physical examination and history taking. An appointment was made for drawing blood samples for measurement of lipid profile, Hb A1C and fasting blood sugar.

Statistical analysis

After completion of data collection, data were entered in Excel and analyzed using SPSS software for Microsoft (version 22).

Student's t-test was used to compare the mean value of measured variables between the two groups. Chi-squared test was used to assess the relation between family history of diabetes mellitus (DM) and developing DM among participants. P value of $< 0.05$ was considered significant.