44535 - FASTING PLASMA GLUCOSE LEVELS IN PATIENTS PRESENTING FOR ELECTIVE SURGERY

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Introduction: Identifying patients with non-diagnosed diabetes mellitus (DM) and pre-diabetes may have important implications on perioperative outcome (1). Preoperative elevated blood glucose is associated with increased mortality after cardiac surgery (2). Poor long-term glycemic control is associated with post-operative infectious complications in non-cardiac surgery (3). The objective of this study was to assess fasting plasma glucose (FPG) concentrations in patients presenting for elective surgery in a tertiary care hospital.

Methods: With the approval of the local IRB FPG was measured in patients undergoing elective non-cardiac surgery between September 2006 and January 2007. All patients were fasting for > 8 hours. Patients were divided into 2 groups: diabetic and non-diabetic. Based on the FPG for the classification and diagnosis of diabetes (4) the non-diabetic group was divided into 3 subgroups: FPG < 6 mmol/l (normal fasting glucose), FPG 6.1-6.9 mmol/l (impaired fasting glucose) and FPG > 7 mmol/l (provisional diagnosis of diabetes). The known diabetic group was also divided into 3 subgroups: FPG < 6 mmol/l (normoglycemia), FPG 6.1-10 mmol/l (moderate hyperglycemia) and FPG >10 mmol/l (severe hyperglycemia).

Results: 231 patients were included in the study; 197 patients in the non-diabetic group and 34 patients in the diabetic group. 6 % (145/197) of the non-diabetic group had a provisional diagnosis of diabetes (FPG > 7.0 mmol/l), 20.3 % (40/197) had pre-diabetes (FPG 6.1-6.9 mmol/l) and 73.6 % (145/197) had normal FPG (FPG < 6.0 mmol/l). In the diabetic group, 26.5 % (9/34) had poorly controlled diabetes at admission (FPG > 10.0 mmol/l), 55.9 % (19/34) had FPG 6.1-10.0 mmol/l and 17.6 % (6/34) had well controlled diabetes.

Conclusion: Over 25 % of our presumably non-diabetic patients presenting for elective non-cardiac surgery had FPG suggesting non-diagnosed diabetes and pre-diabetes. Also over 25 % of patients with known DM had poorly controlled diabetes. Obtaining this information may initiate not only an earlier detection of diabetes but also impact on acute perioperative treatment and outcome.

References:

1. Eur Heart J 2005; 26: 1506-12.
2. Ann Thorac Surg 1999; 67: 352-60,
3. Arch Surg 2006;141:375-80.
4. Diabetes Care 1997; 20: 1183-97.