44363 - PREOPERATIVE INSULIN RESISTANCE, POSTOP COMPLICATIONS PRELIMINARY FINDINGS

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INTRODUCTION: Insulin resistance is a clinical entity recognized in the non-diabetic surgical patient, and either in presence or not of hyperglycemia, it can be associated with adverse outcomes. The present study was set up to identify whether a preoperative state of insulin resistance in non diabetic patients undergoing major elective surgical procedures would influence postoperative complication rate.

METHODS: Local IRB approval was obtained for this study. Two-hundred and five adult non-diabetic consecutive patients scheduled for major elective operation (thoracic, abdominal, pelvic and major lower limb joint) were studied. A blood sample was taken in the preoperative clinic to measure fasting plasma glucose and insulin and assess state of insulin resistance using the Homeostasis Model Assessment (HOMA) score[1]. Homa <1.45 is considered insulin sensitive, values between 1.46 and 2.49 borderline and > 2.50 insulin resistant. The number and types of postoperative complications and their therapeutic consequences during the first 30 postoperative days were recorded and classified using the well validated Clavien classification.[2]

RESULTS: Metabolic syndrome was present in 26% of the patients studied, and particularly in joints (48%) and abdominal (30%). There were 47 % in the sensitive group, 28% in the borderline group and 25% in the insulin resistant group. While plasma glucose was similar in the groups (mean 5.2 ± 0.8), insulin was higher in the joints (75 ± 45), followed by thoracic (61 ± 40), abdominal (47 ± 29) and pelvic (45 ± 20). Approximately 30% of all patients had postoperative complications. Fourteen out of 51 patients (28%) who were insulin resistant before surgery had complications, compared with 15% in the borderline group and 9% in the sensitive group.

Variable	All	Thoracic	Abdominal	Pelvic	Joints
Patients (N)	205	47	56	37	65
Preoperative HOMA 1.46-2.49 N (%)	58(28)	14(30)	16(29)	9(24)	19(29)
Preoperative HOMA>2.5 N (%)	51(25)	13(28)	8(14)	5(14)	25(38)
Complications Yes/No	73/132	18/29	30/26	7/30	18/47
Clavien >3 (N)	23	9	10	2	2

DISCUSSION: These preliminary findings indicate that insulin resistance is common in patients undergoing major surgery and can be a factor responsible for postoperative complications. Further work is needed to elucidate the trajectory of insulin resistance during the peri-operative period.

REFERENCES:

1. Diabetologia 1985; 28: 412-9
2. Ann Surg 2004; 240: 205-13