

Postoperative blood glucose after surgery in the head and neck region with pre-operative Dexamethasone

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Surgically induced stress-metabolism is well documented to cause peripheral insulin resistance.

Corticosteroids used to prevent postoperative nausea and vomiting has potentially the same unwanted effect.

Aim

We wanted to investigate postoperative blood glucose and insulin sensitivity in operations with both risk factors involved.

Methods

Standard procedures were used including pre-operative received 8-16 mg Dexamethasone p.o. to prevent nausea and vomiting postoperatively.

33 non-diabetic patients were randomized to either insulin, subcutaneously (NovoRapid) postoperatively when blood glucose ≥ 10 mmol/l or routine treatment.

Outcomes were levels of blood glucose, surgical complications, length of stay, re-admission rate, and the effect of insulin on blood glucose ≥ 10 mmol/l.

All patients were monitored by continuous blood glucose measurements (Freestyle Libre) from 8am to 10pm for maximally 3 days.

Biochemical measurements and physical tests were performed at baseline, daily during hospitalization and 2 weeks after discharge.

Results

Hyperglycemia was observed in 54% of the patients during hospitalization but was normalized with very small doses of insulin (0.4-0.8 U).

A positive correlation was found between the maximal blood glucose values and age, duration of surgery and p-C-peptide.

There were no differences between the treatment groups in any aspect.

Conclusion

The postoperative insulin resistance after surgery for head and neck region is modest and easily treatable with standard doses of insulin despite routine administration of 8-16 mg Dexamethasone pre-operatively.

