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Persistent Hypoglycemia in Patient with Giant Phyllodes Tumor Successfully Treated with Dexamethasone and Surgery

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A 34-year-old female with a 13-year history of enlarging right breast mass was admitted for elective surgery. Physical exam revealed a giant (33x26x16cm), fungating, right breast mass. She developed symptomatic hypoglycemia at the ward and fulfilled Whipple's triad. Hypoglycemia persisted despite glucose infusion and increased carbohydrate intake. Lab tests showed a low C-peptide and low normal insulin level. Further investigations excluded drugs, systemic illness, thyroid dysfunction, renal or hepatic failure as causes hypoglycemia. The presence of a phyllodes tumor(PT) along with hypoglycemia prompted consideration of non-islet cell tumor hypoglycemia (NICTH). Hypoglycemia improved with dexamethasone 4mg IV every 8 hours prior to right total mastectomy. Histopathology confirmed a benign PT. There was no recurrence of hypoglycemia after tumor removal. This supports the diagnosis of PT-related hypoglycemia.

NICTH is a rare paraneoplastic process linked to excess secretion of altered forms of IGF-II. Treatment of NICTH is directed towards tumor removal. However, hypoglycemia must be controlled prior to definitive therapy. Diazoxide, growth hormone, octreotide and glucagon may be given to increase blood glucose but these drugs are not widely available. An alternative option is to utilize the hyperglycemic side-effect of glucocorticoids. Glucocorticoids induce hyperglycemia via its action on glycogen, protein and lipid metabolism. In addition, glucocorticoids suppress IGF-II. In our case, dexamethasone was successfully used to rapidly induce hyperglycemia as preparation for surgery.

Hence, NICTH should be considered in a patient presenting with a tumor and hypoglycemia. Dexamethasone may be used to rapidly increase serum blood glucose to allow institution of definitive therapy.