INSULINOMA WITH SPECIAL FEATURES

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SUMMARY

A case report of insulinoma is presented for some special features. The patient had severe hypoglycaemic symptoms in fasting state for over 18 years. On oral GTT there were no typical symptoms and the glucose tolerance was normal. The suspicion of insulinoma was strengthened because she had elevated fasting serum C-peptide. However, the corresponding insulin value was normal. On laparotomy, a peanut sized tumour was removed from the pancreas and histopathological examination confirmed that the tumour was insulinoma. Postoperatively, the patient is symptom free, but her insulin and C-peptide responses are abnormal. The plasma glucose values remain in the low normal range.

INTRODUCTION

The diagnosis of insulinoma depends on a high degree of clinical suspicion and documentation of fasting hypoglycaemia with symptoms which are relieved by administration of glucose. Confirmation of the diagnosis is facilitated by an elevated insulin/glucose ratio. This case is being reported because of its many special features namely: 1) comparitively low insulin concentration with high C-peptide concentration 2) the insulin concentrations continued to be low with low concentrations of C-peptide after the removal of insulinoma 3) none of the longest documented pre-operative period without major catastrophe. This is also the first case of proved insulinoma being reported from the Indian subcontinent.

CASE REPORT

Mrs. B.B., 54 years old housewife was referred to the centre for investigation of hypoglycaemia, on June 23, 1984. She gave history of frequent episodes of giddiness, palpitation, sweating and occasional fits with unconsciousness or semi-consciousness since 1966. She had been hospitalised on two occasions, treated with intravenous glucose and was advised laparotomy. The patient was afraid of the outcome of surgery and refused the operation. The lowest fasting blood glucose recorded was 35 mg/dl in fasting state. She used to get hypoglycaemic attacks frequently at any time of the day or night and used to drink glucose solution frequently during day and night.

Ultrasound performed a month prior to the present examination showed no evidence of pancreatic masses and pancreatic echogenicity was normal. Spleen, kidneys, liver and gall bladder were normal. There was no neurological deficit. First degree family history of diabetes was present, brother having diabetes. She had 8 child births and has 6 living children. The first episode of hypoglycaemia was noted 6 months after 7th child birth in 1966. She weighed 55.9 Kg, with a height 175 cm, with an upper limit of normal range. However, both the fasting CP and the stimulated CP responses were high. On subsequent days in the hospital the fasting plasma glucose values were 37 mg/dl and 41 mg/dl and the patient was uncomfortable during fasting. She was given oral glucose. Insulinoma was suspected in view of the high fasting CP. Surgery was done on November 9, 1984 and a peanut sized bluish tumour with capsule was removed from the head of the pancreas.

Pathology Report

The specimen was a discrete, well demarcated solitary tumour. The cut section appeared yellow and homogenous. Hematoxyline and eosin stained sections showed an encapsulated tumour with cells resembling normal islets arranged in solid nests of ribbons and festoons (Figure). The cells were eosinophilic and fairly...
serum CP in the fasting state. The corresponding IRI value was within normal limits and not suggestive of endogenous hyperinsulinaemia. The reasons for the disparity between IRI and CP values are speculative. It may be that the degradation of IRI is increased in the patient. It may be that the degradation of IRI is increased in the patient. It is also likely that the sensitivity for endogenous insulin is quite high. Normal insulin concentration and I/G ratio, thus do not exclude the possibility of insulinoma. A similar case was reported by Harrisson. The patient, a young child was reported to have profound, hypoglycaemia with low insulin values of 3 to 5 uU/ml. Interestingly, our patient has subnormal insulin and CP values after the removal of insulin secreting tumour; however her plasma glucose values are always in the low normal range. This is probably an indication for enhanced insulin sensitivity in this patient who is now absolutely symptom free. The other possibility for low plasma glucose could have been incomplete removal of the tumour. However, the low CP and IRI values do not support this possibility.

This case is, therefore, reported for its peculiar features, viz. 1) Elevated fasting serum CP with normal IRI and 2) the picture of elevated insulin sensitivity subsequent to the removal of the insulinoma and 3) for one of the longest pre-operative periods with symptoms of hypoglycaemia.

The patient is leading a normal life for the past 2 years after the surgery and has stopped buying glucose.

ACKNOWLEDGEMENT:

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REFERENCES


TABLE 1: RIA OF INSULIN AND C—PEPTIDE

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