

# A CASE OF TYPE 1 DIABETES REPRESENTED BY DIABETIC KETOACIDOSIS AFTER ISOTRETINOİN THERAPY: IS IT A RESULT OR COINCIDENCE?



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## INTRODUCTION

- ❖ Well-known environmental factors, which can lead to type 1 diabetes, are viral infections, vaccines, diet, exposure to cow milk in infancy, vitamin D deficiency, drugs, maternal age, preeclampsia and low birth weight
- ❖ Isotretinoin is an effective drug for acne treatment
- ❖ It can cause dyslipidemia, elevated liver enzymes, insulin resistance and type 2 diabetes.
- ❖ Our case is type 1 diabetes developed after the use of isotretinoin and represented with diabetic ketoacidosis.

## CASE

- ❖ 18 years-old-male patient has admitted to hospital with complaints of abdominal pain, increased sense of thirst, frequent urination and dry mouth.
- ❖ In physical examination, he was dehydrated with hypotension and dry oral mucosa.
- ❖ He didn't have family history of diabetes. With further questioning, we have learnt that he was using isotretinoin for acne treatment for seven months.
- ❖ In laboratory examination, his plasma glucose level was 400 mg/dl, and there was heavy ketonuria and acidosis in arterial blood gas.
- ❖ He was hospitalized in endocrinology ward with diagnosis of diabetic ketoacidosis.
- ❖ Hydration with isotonic saline together with insulin infusion, potassium replacement and dextrose infusion were given to the patient. His anti GAD was positive and C-peptid level was very low leading to diagnosis of type 1 diabetes. After amelioration of ketoacidosis, we have skipped intensive insulin therapy and blood glucose levels were regulated.

	Laboratory Results	Reference Range
Glucose	400	74-106mg/dl
Urine ketone	+++	Qualitative
Na	133	135-145mmol/l
K	3.3	3.5-5.1mmol/l
PO4	2.5	2.5-4.5mg/dl
Ca	8.5	8.5-10.2mg/dl
Cr	1.3	0.5-1.2mg/dl
ALT	16	0-33 u/l
Hb	12.6	12-16gr/dl
Wbc	20000	4000-10000 K/ul
CRP	4.8	0-0.8 mg/dl
Arterial PH	PH:6.9	7.35-7.45
pCO2	30	35-45mmHg
HCO3	10	22-26 mEq/L

Table 1: Laboratory results at the time of diagnosis

## CONCLUSION

- ❖ Isotretinoin is related with metabolic syndrome and type 2 diabetes.
- ❖ However, there are few cases of type 1 diabetes in literature.
- ❖ Anti GAD positivity is suggestive of underlying autoimmune mechanisms triggered by the drug.
- ❖ Patients should be monitored with frequent glucose measurements during follow up.