Evaluation of Cases by Short Synacthen Test (Dose: 250 Microgram I.V.) Suspected as Secondary Adrenal Insufficiency of Prolonged Steroid Abuse

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Introduction: Adrenal insufficiency is a common problem in our country due to steroid abuse in various forms. In many occasions the patients even do not know about its side effects and consequences of non prescribed usage. Many of them presents with sudden withdrawal and adrenal crisis. Many of them admits in Gastroenterology unit due to vomiting, some of them in Medical unit with unexplained fever, weakness anaemia, Electrolyes imbalance, Glucose intolerence etc. Most of them having subtle features of Iatrogenic Cushing's In this case series patients having history of chronic steroid(Unknown drug !) use but, are not taking steroid at least since last 4 weeks are evaluated due to their minimal symptoms.

Methods: All patients having history of supraphysiological dose of Steroid use more than 3 months in any form but not taking for at least one month. Clinically stable, not at crisis. All 34 subjects were evaluated by Short Synacthen Test 250 mcg IV. 3 samples S.Cortisol were test 0 hour , and After Inj. Synacthen 250 mcg IV, at 30 minutes and 60 minutes. S.ACTH was tested with 0 mins Cortisol.

Result: At 0 hour S Cortisol value ranges from 53-237 nmol/L. At 30 minutes after Inj. Synacthen 250 mcg IV S cortisol ranges from 76-622 nmol/L and at 60 minutes 87-587 nmol/L. In the group who has 9 am hour S Cortisol < 140 nmol/L(n=15) they have at 30 min S.Cortisol 53-411 nmol/L and at 60 min 76- 527 nmol/L. S ACTH at 9 am was within normal limit.

Conclusion : In the study cases of suspected secondary adrenal insufficiency due to steroid abuse (Basal S. Cortisol< 240 nmol/L) Synacthen test with 250 mcg Tetracosactren(Synacthen) IV mostly shows Partial Adrenal Insufficiency. In most cases immediate replacements were depended on clinical presentation not on lab values . So for representative lab values(Whom to treat or not to treat with Steroid) dose of Synacthen for the "TEST" can be reconsidered at lower dose between 1mcg and 250 mcg. As 1mcg is not available, preparation by self dilution method, is not standardized in lab always. Pharmaceutical companies should be requested for standard strength of ACTH may be 10-100 mcg/ml for dispensing. Further RCT with 1 mcg to 10 mcg can be considered to find the standard dose of the "Low Dose Test" specially for the group of subjects diagnosed as secondary Adrenal Insufficiency due to steroid abuse, who are under evaluation of HPA axis recovery.

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