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INTRODUCTION: The management of kidney disease is often challenging. Steroids are usually an integral part of many chronic kidney diseases (CKD) treatment regimens notably glomerulonephritis (GN). Steroids are either used as monotherapy or in combination with other medications. High doses of steroids are often prescribed in such cases with sparsely reported adverse effects. This study is therefore aimed at highlighting the complications of steroid therapy in patients with GN.

METHODS: This single centre retrospective study was done at the University of Nigeria Teaching Hospital (UNTH), Enugu State, Nigeria. a major nephrology referral centre in south-eastern Nigeria. Medical records of adult CKD patients with diagnosis of GN seen between September 2018 and September 2023 at the UNTH nephrology outpatient clinics were assessed. Only new onset signs and symptoms noted after steroid therapy initiation were analyzed. Iatrogenic diabetes mellitus (DM) was defined by ≥ 2 blood glucose levels ≥ 7.0 mmol/L (126 mg/dL) and/or ≥ 11.1 mmol/L (200 mg/dL) in fasting and random samples respectively associated with glucocorticoid use without prior DM history. Persistent blood pressure $\geq 140/90$ following steroid initiation in previously normotensive patients was diagnosed as steroid induced hypertension.

RESULTS: There were 656 (371 (56.6%) males, 285 (43.4%) females) CKD patients. 384 (58.5%) of them had different types of GN as shown in table 1. One hundred and forty three patients (primary GN: 118 (82.5%), SLE: 23(16.1%), other CTDs: 2(1.4%) received steroid therapy. The various steroid use complications are shown in fig. 1

Table 1: Type of glomerulonephritis

Type of GN	N=384	%
Primary GN	236	61.5
HIV associated GN	97	25.3
Systemic lupus erythematosus (SLE)	23	6
Hepatitis B virus associated GN	9	2.3
Sickle cell anaemia associated GN	8	2.1
Hepatitis C virus associated GN	6	1.6
GN associated with other connective tissue diseases	3	0.8
COVID-19 associated GN	2	0.5

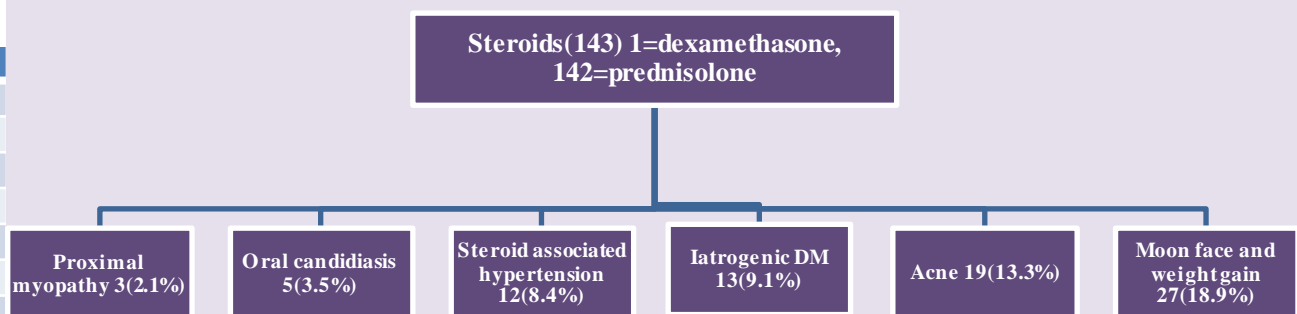


Fig.1 Complications of steroid use

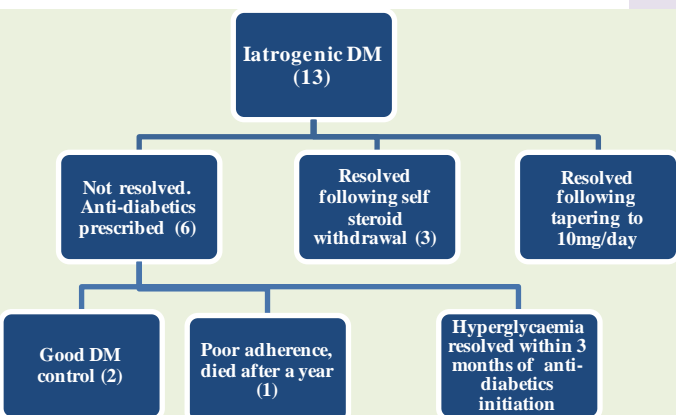


Fig.2 Outcome of iatrogenic DM

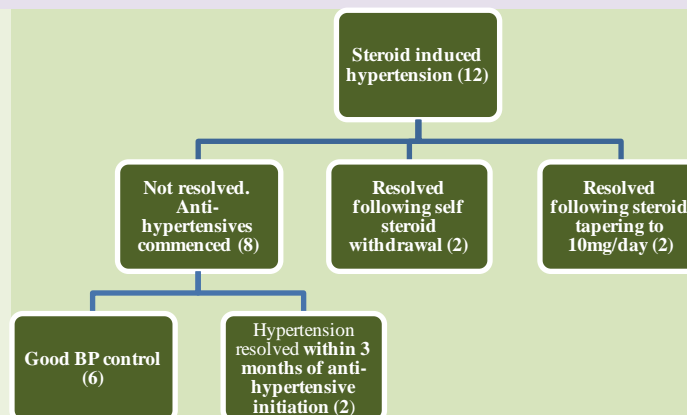


Fig.3 Outcome of steroid induced hypertension

Proximal myopathy, weight gain/ moon face and acne resolved following steroid tapering/ withdrawal. Exercise/ diet therapy were added for patients with weight gain/ moon face. Antifungals were prescribed for patients with candidiasis. Outcome of iatrogenic DM and steroid induced hypertension are shown in fig. 2 and 3 below respectively.

CONCLUSION: Despite being an integral part of many therapies for management of GN, steroid use is fraught with complications which should be looked out for, detected early and appropriately managed to prevent further complications.