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**Prevalence of early stage Chronic Kidney Disease in diabetic and hypertensive patients in a tertiary care hospital, northern Ethiopia: A Point-of-Care screening in resource limited setting**

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**Background:** Diabetes and hypertension are primary risk factors for Chronic Kidney Disease (CKD). Therapeutic interventions are most likely to be effective if they are implemented early in the course of the disease process. Due to unavailability of screening strategies, there is no previous study on the prevalence of early stage CKD in high risk populations in resource limited setting, including northern Ethiopia. This study aims to assess the prevalence of early stage CKD and associated factors among diabetic and hypertensive patients using a point of care screening in a tertiary care hospital, Northern Ethiopia.

**Method:** a hospital-based cross-sectional study design was employed to consecutively sample hypertensive and diabetes mellitus adult (aged >18years) patients visiting Ayder comprehensive specialized Hospital from February 1- 30 March, 2020. Data was collected by interview and from CKD screening test results. Each patient provided a urine sample for albuminuria and a blood sample for creatinine level. Estimated Glomerular Filtration Rate (GFR) was calculated using CKD epidemiology collaboration (CKD-EPI) equation. A bivariate and multivariable logistic regression model was used to assess associated risk factors. P-value <0.05 and 95% confidence interval were considered statistically significant.

**Results:** a total of 512 (243 hypertensive and 259 diabetic) patients were included in the study. Two-third of these patients (n=343) had microalbuminuria and 17% (n=85) had macroalbuminuria. About 15% (n = 78) of the study participants had an estimated GFR of <60ml/min/1.73m<sup>2</sup>. Being diabetic was 3.8 times (P-value: <0.001; 95% CI: 1.83, 7.82), and being both diabetic and hypertensive was 5.4 times (p-value: 0.001; 95% CI: 2.09, 14.10) at higher risk of developing early stage CKD than that of only hypertensive patients.

**Conclusion and recommendation:** A significant proportion of diabetic and hypertensive patients attending follow up in northern Ethiopia developed early stage CKD. Being diabetic and combination of both diabetes and hypertension were independent predictors for developing early stage CKD. More diagnostic resources and implementation of regular point -of -care screening for CKD among high risk patients are of paramount importance for early detection and treatment to halt the progression of the disease.

**Key words:** point of care screening, early chronic kidney disease, albumin to creatinine ratio, albuminuria, glomerular filtration rate, diabetes mellitus, hypertension, Ethiopia

**Recent Publications**

1. Hailu, Abraha & Gidey, Kibreab & Zenebe, Dawit & Berhe, Ephrem & Kidu, Meskelu & Berhane, Samuel & Gebrearegawi, Hailemariam & Tesfay, Hagazi & Mehari, Desilu & Kahsay, Hagos & Msc, Senait & Msc, Kidanu & Gebregziabher, Tesfay. (2022). The Impact of the Northern Ethiopian Tigray War on Hypertensive Patients' Follow Up: a Brief Quantitative Study. 10.21203/rs.3.rs-2003722/v1.
2. Berhe, Ephrem & Kidu, Meskelu & Teka, Hale. (2022). Ethiopia's Tigray War: the agony of survival in kidney transplant recipients. Journal of Nephrology. 35. 10.1007/s40620-022-01380-
3. Berhe, Ephrem & Ross, Will & Teka, Hale & Abraha, Hiluf & Wall, Lewis. (2022). Dialysis Service in the Embattled Tigray Region of Ethiopia: A Call to Action. International Journal of Nephrology. 2022. 1-6. 10.1155/2022/8141548.

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## Complications of 302 Laparoscopic Renal Surgeries

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**Introduction:** Laparoscopic surgery is gold standard in the treatment of different kidney pathologies. The aim of the present work is to analyse the postoperative complications of renal laparoscopic surgeries using the Clavien-Dindo classification.

**Material and Methods:** An observational study was carried out using our prospective database (Sanatorio Allende, Argentina). We analysed all consecutive laparoscopic renal surgeries performed at our institution in which treatment or approach of the renal pedicle was performed. Postoperative complications up to 90 days after surgery were considered.

**Results:** A total of 302 laparoscopic renal surgeries involving the renal pedicle were performed. 49.7% were radical nephrectomies, 32.8% partial nephrectomies, 11.6% simple nephrectomies, 4.6% nephroureterectomies, and 4 patients (1.3%) were kidney donors. A total of 221 patients (73.2%) had a postoperative course without complications (Clavien 0), 75 patients (24.8%) suffered minor complications (Clavien I and II) and 6 patients (2%) had major complications. Of the Clavien 2 patients, 72% were transfused or used antibiotics to treat infection. Among the major complications, 3 type IIIa were recorded: a ureteral stent placement due to urinoma, an arteriovenous fistula and a pseudoaneurysm treated in hemodynamics (all three in partial nephrectomies). We had one IIIb (reintervention for bleeding after radical nephrectomy) and two IVa: one heart pump failure and one respiratory failure. In a total of 6 patients (2%), laparoscopic surgery was converted to conventional open surgery due to technical difficulty or bleeding (5 radical and 1 simple). Two radical nephrectomies and one nephroureterectomy were converted to "hand-assisted laparoscopic" technique, while two partial nephrectomies were converted to laparoscopic radical nephrectomy. Thirteen patients (4%) received a total of 29 unit red blood cell transfusions. The overall complication rate was 26.8%, while in radical nephrectomies it was 24%, in partial and simple nephrectomies it was 28%, in nephroureterectomies 36% and in donors 25%.

**Conclusion:** Complications in our series were predominantly minor and we consider laparoscopic renal surgery to be a safe technique in our environment.

### Recent Publications

1. Hu et al, Fewer complications after laparoscopic nephrectomy as compared to the open procedure with the modified Clavien classification system - a retrospective analysis from Southern China, *World J Surg Oncol*. 2014
2. Secin et al, American Confederation of Urology (CAU) experience in minimally invasive partial nephrectomy. *World J Urol*, 2017
3. Gill, I.S., et al. Comparison of 1,800 laparoscopic and open partial nephrectomies for single renal tumors. *J Urol*, 2007.

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