AN UNCOMMON PRESENTATION OF RIFAMPICIN INDUCED ACUTE RENAL FAILURE

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Abstract : Rifampicin induced Acute Renal Failure is uncommon and more frequently seen in intermittent therapy, occurs on reintroduction of Rifampicin in patients with history of previous Rifampicin regimen intake. Most frequent symptoms are gastrointestinal, flu-like and oliguria. But our case was non-oliguric. A 57 years old female on Category I Anti Tuberculous Treatment for TB Cervical Lymphadenitis presented with nausea, vomiting, heart burning and itching. HO prior ATT 20 years ago for Spinal Tuberculosis. Baseline Renal parameters were normal. Follow up Renal Function Tests revealed Acute Renal Failure. Renal biopsy revealed Acute Interstitial Nephritis—Rifampicin induced. ATT stopped. T.Prednisolone started with close monitoring of Renal function. Since patient was asymptomatic, non-oliguric Serum Creatinine was declining, patient was discharged and advised to continue non-Rifampicin based ATT regimen and to continue steroids for four weeks. A high index of suspicion for Rifampicin induced ARF should be considered in patients on ATT who present with symptoms of intolerance like nausea, vomiting and with progressive deterioration of Renal function. Diagnosis is based on circumstances, clinical presentation, Renal biopsy (Gold Standard). And baseline investigations are highly essential before starting ATT. Early diagnosis and discontinuation of Rifampicin are of fundamental importance for recovery of Renal function and there will be complete restoration of Renal function.

Keyword : Rifampicin, Acute Renal Failure, Gastrointestinal symptoms

INTRODUCTION
Patients on AntiTuberculous Treatment who develop nausea and vomiting are usually having diagnosed as gastrointestinal intolerance and treated symptomatically. But an uncommon condition – Rifampicin induced Acute Renal Failure may also present with gastrointestinal symptoms. Rifampicin induced ARF is uncommon and reported sporadically. More frequently seen in intermittent therapy, occurs on reintroduction of Rifampicin in patients with a history of previous Rifampicin regimen intake. Most frequent symptoms are gastrointestinal, flu-like and oliguria. But our case was non-oliguric. Immunological reactions are thought to be the reason for Renal damage.

CASE REPORT
A 57 years old female known case of TB Cervical Lymphadenitis on Category I ATT who had taken 6 doses, presented with nausea, vomiting, heart burning and itching without oliguria. H/O prior ATT 20 years ago for Spinal Tuberculosis. Baseline Renal parameters were normal. Follow up Renal Function Tests revealed Acute Renal Failure. Renal biopsy revealed Acute Interstitial Nephritis—Rifampicin induced. ATT stopped. T.Prednisolone started with close monitoring of Renal function. Since patient was asymptomatic, non-oliguric & SerumCreatinine was declining, patient was discharged and advised to continue non-Rifampicin based ATT regimen and to continue steroids for four weeks.

DISCUSSION
Incidence
Rifampicin Induced Acute Interstitial Nephritis is uncommon and reported sporadically. Accurate data is lagging. More than 100 cases have been reported. A study of 25 cases of ARF by Muthukumar et al, Dept of Nephrology, Madras Medical College, Chennai, from 1990 to 2000 showed Rifampicin Induced Acute Interstitial Nephritis constituted 2.5% all cases of ARF during the study period.

Presentation
Rifampicin Induced Acute Interstitial Nephritis occurs in reintroduction of Rifampicin after a drug free period (8 days to 11 years. reported). Typically occurs in intermittent therapy (some authors reported during continuous therapy also). Most frequent symptoms are gastrointestinal, flu-like and usually associated with Oliguria – One case has been reported with polyuria. Antibiotic induced Acute Tubulointerstitial Nephritis usually presents with rash, eosinophilia, eosinophiluria, sterile pyuria, haematuria & modest proteinuria; But, Rifampicin – unique – Rifampicin Induced Acute Interstitial Nephritis occurs in reintroduction – doesn’t manifest with eosinophilia

Pathophysiology:

>> Allergic reactions to Rifampicin or one of its metabolites causing allergic Interstitial Nephritis. >> Rifampicin Induced Acute Interstitial Nephritis reported to show casts containing immunoglobulin light chains in tubular epithelium.

>> Circulating anti-Rifampicin antibodies & IgG deposits along the tubular basement membranes reported
Role of Cell Mediated injury appears more likely based on invitro studies of lymphocyte activation on exposure to Rifampicin

**Diagnosis**
- Circumstances
- Clinical presentation
- Renal biopsy – Gold Standard
- Anti I antibody – not in all cases

**CONCLUSION**
A high index of suspicion for Rifampicin induced ARF should be considered in patients on ATT who present with symptoms of intolerance like nausea, vomiting with progressive deterioration of renal function. And baseline investigations are highly essential before starting ATT. Early diagnosis and discontinuation of Rifampicin are of fundamental importance of recovery of renal function. And Rifampicin should not be reintroduced again. There will be complete restoration of renal function.

**References**
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