

Ayurvedic Drugs Induced Acute Interstitial Nephritis

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Abstract

Intorduction : There have been concerns about indigenous drugs causing acute interstitial nephritis. However there are no case reports in India. The reason may be most of them going undiagnosed or the nature of content not known.

Methods : Here we report three cases of biopsy proven acute interstitial nephritis in patients taking a concoction of indigenous drugs seen by us over the last 2 years. They were subjected to baseline investigations : CBC, KFT Urine RM, ultrasound. All of them were then subjected to real time ultrasound guided kidney biopsy to confirm a diagnosis of AIN.

Results : All the three patients presented with Nonoliguric AKI. They comprised 30% (3/9) of all patients with drug induced AIN seen during this period. First case resolved with short course of steroids, whereas second case resolved spontaneously after withdrawal of these drugs. The third patient showed partial improvement following treatment but developed sepsis and expired

Conclousns : There is an urgent need to evaluate the safety of these indigenous drugs

Introduction

Acute interstitial nephritis is a common cause of acute kidney injury and accounts for 7-15% cases of AKI. The most common etiology of AIN is drug induced, which is thought to underlie 60-70% of cases.

Chinese herbs (Aristocholic Acid) have been well documented in causing interstitial nephritis. However there is no similar report with Ayurvedic drugs.

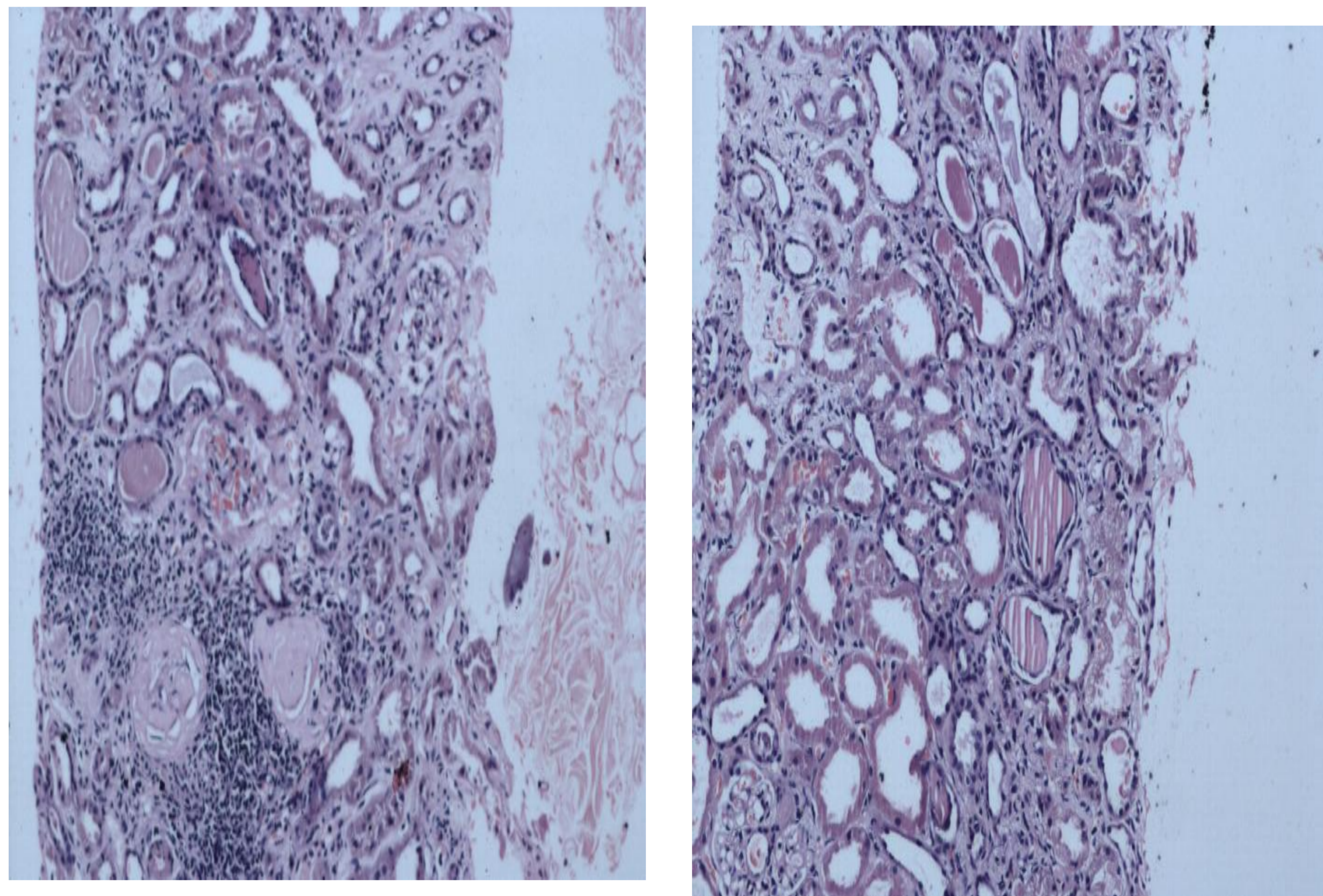
Pathophysiology

The mechanism by which exogenous compounds viz indigenous drugs cause injury depends on the anatomical, physiological and biochemical features attributable to the kidney.

They include large blood flow, high endothelial surface area, high metabolic activity, active uptake by tubular cells and medullary interstitial concentration, presence of a variety of xenobiotic transporters and metabolizing enzymes and concentration of solutes during urine production. Various indigenous agents can be nephrotoxic in different ways :

- Directly nephrotoxic
- Causing electrolyte abnormalities by action upon the kidney
- Drugs predisposing to stone formation (oxalate stones)
- Herbs acting like diuretics
- Herbal drugs mixed with heavy metals or other drugs
- Agents interacting with the transplant medication.

Result



Kidney Biopsy

Fig. Kidney biopsy reveals dense interstitial infiltration, edema and normal glomeruli suggestive of Acute Interstitial Nephritis

- In all these 3 cases, after excluding all other causes of AIN the culprit appeared ayurvedic medicines which were taken by the patient for weakness in first and third case and for weight reduction in second case.
- All 3 patients had biopsy evidence of Acute Interstitial Nephritis
- Two patients had severe Renal failure requiring dialysis while 1 patient had moderate renal failure
- After stoppage of the drugs they were regularly followed. Two patients were given steroids while one patient recovered spontaneously after stoppage of drugs.
- All 3 patients showed improvement of renal functions. On last followup two patients continue to have normal renal function while 1 patient developed sepsis and expired
- List of indigenous contents (Case 2) :
 - harad (chebulc myrobalan)
 - badi har (terminalia chebula)
 - vahera (terminalia belerica)
 - moran fali
 - pay khumma, pay virang, nageri ashmat
 - heeing, kala namak, soda

	Age	Gender	Baseline S.cr	Peak S.cr	Last follow up S.cr	Biopsy	Dalysis
Case 1	70	M	1.2	6.27	1.1	AIN	yes
Case 2	50	M	3.9	3.9	0.7	AIN	no
Case 3	80	F	9.6	9.6	4.2	AIN	yes

Discussion

- The science of herbs exists in India since time immemorial.
- The name of Rishi Dhanvantri is enshrined in the mythology and there is mention of turmeric, tulsi or tamra application on wound injuries.
- A review of literature reveals no case reports of ayurvedic drugs causing acute interstitial nephritis. This is perhaps because most of them go unnoticed, actual composition is unknown to the patient and lack of standard protocol for purity testing. However in one of our patients, we were fortunate enough to decipher the offending agents.

Conclusions

- Ayurvedic (Indian Indigenous) drugs are routinely prescribed and taken in India
- However there are no published cases as most of the time these are unidentified and unreported.
- So there is an urgent need to evaluate the safety of these indigenous drugs.

References

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