

unit consists of noncommunicating cysts with intervening solid tissue composed of fibrosis, primitive tubules, and foci of cartilage. Usually, ureteral atresia is also present. Uncommonly, the kidney develops tumors or infection, and hypertension may develop.

Renal dysplasia: In renal dysplasia - a histologic diagnosis, the renal vasculature, tubules, collecting ducts, or drainage apparatus develops abnormally.

Renal ectopia: Renal ectopia, abnormal renal location, usually results when a kidney fails to ascend from its origin in the true pelvis; a rare exception occurs with a superiorly ascended (thoracic) kidney. **Pelvic ectopia** increases the incidence of ureteropelvic junction obstruction, vesicoureteral reflux, and multicystic renal dysplasia.

Renal hypoplasia: Hypoplasia usually occurs because inadequate ureteral bud branching causes an underdeveloped, small kidney with histologically normal nephrons^{20,21,22}.

CONGENITAL URETERE ANOMALIES

The ureter drains urine from the kidney into the bladder. Not simply a tube, the ureter is an active organ that propels urine forward by muscular action. It has a valve at its lower end that prevents urine from flowing backward into the kidney. Normally there is one ureter on each side of the body for each kidney. Ureters may also be malformed in a variety of ways—which can cause have severe manifestations, and some go unnoticed in life.

Double ureter: However, among the many abnormalities of ureteral development, duplication is quite common

Retrocaval ureter: A ureter can be perfectly normal but have an abnormal position, such as behind the vena cava (retrocaval ureter), the large vein in the middle of the abdomen. In this case the ureter may be pinched by the vena cava so that flow is hindered. Other abnormal locations may also lead to compression and impaired flow, leading to hydronephrosis. Urethral anomalies which can be associated with obstructive uropathies, can be enumerated as phimosis, paraphimosis, hypospadias, malformation of penis, ureteral reflux..

Hence one can conclude though the etiology of urolithiasis is multifactorial and is strongly related to dietary lifestyle habits and practices a defective

anatomy could be a major contributing factor. Insight into the etiology would help in proper management of the condition.

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LITERATURE REVIEW

Factors other than glomerular filtration rate affect serum cystatin C levels Lesley A Stevens, Christopher H Schmid, Tom Greene, et al. Kidney Int. 2009, 25, 652-660

Cystatin C is an endogenous glomerular filtration marker hence its serum level is affected by the glomerular filtration rate (GFR). To study what other factors might affect it blood level we performed a cross-sectional analysis of 3418 patients which included a pooled dataset of clinical trial participants and a clinical population with chronic kidney disease. The serum cystatin C and creatinine levels were related to clinical and biochemical parameters and errors-in-variables models were used to account for errors in GFR measurements. The GFR was measured as the urinary clearance of ¹²⁵I-iothalamate and ⁵¹Cr-EDTA. Cystatin C was determined at a single laboratory while creatinine was standardized to reference methods and these were 2.1+/-1.1 mg/dL and 1.8+/-0.8 mg/L, respectively. After adjustment for GFR, cystatin C was 4.3% lower for every 20 years of age, 9.2% lower for female gender but only 1.9% lower in blacks. Diabetes was associated with 8.5% higher levels of cystatin C and 3.9% lower levels of creatinine. Higher C-reactive protein and white blood cell count and lower serum albumin were associated with higher levels of cystatin C and lower levels of creatinine. Adjustment for age, gender and race had a greater effect on the association of factors with creatinine than cystatin C. Hence, we found that cystatin C is affected by factors other than GFR which should be considered when the GFR is estimated using serum levels of cystatin C.

NOBEL PRIZE IN CHEMISTRY

Dr. Venkataraman Ramakrishnan – a scientist of Indian origin, working at MRC laboratory of Molecular Biology at Cambridge, England has been awarded this Noble Prize in Chemistry for year 2009, for his work on **ribosomes** which began way back in 1978. A ribosome is a collection of several DNA molecules and some protein molecules. Dr.Venkataraman's work has wide ranging applications from designing more effective antibodies to complex biotechnological processes.

(Source TOI October 8th 2009)

of calcium phosphate crystallization. This properly decreases in seeds that had been stored for greater than 6 months postharvest.

Rotula aquatica lour

Traditional Indian medicine has used *Rotula aquatica lour* as a remedy for urolithiasis. In a rat model of calcium oxalate urolithiasis, *R. aquatica lour* was demonstrated to reduce urinary calcium and oxalate levels and prevent the histopathologic abnormalities noted in the untreated animals dilated renal tubules, microcrystals, and epithelial cell damage. No significant change was noted in serum calcium, phosphate, or magnesium.

Fish Stone (Sangesarmahi)

Fish stones are calcified material present in the skull of *Channa fish* and are part of an Ayurvedic approach to treatment of urolithiasis. In the clinical study, patients with existing ureteric and renal pelvic stones ranging in size from 4-9 mm were given 75 mg of fish stone powder three times a day for 5 days. No change was seen in the urinary profile; however, 36% of the patients passed a stone within 5 days of starting therapy. The authors attribute this to ureteric smooth muscle for relaxation properties of fish stones; however, this was an uncontrolled study.

HOMOEOPATHY FOR RENAL CALCULI

Apis Mellifica

It is indicated when there is scanty, high colored or red urine renal pain due to stones along with soreness on pressure or when stooping or frequent sudden attacks of pain along with strangury and retained urine.

Berberis Vulgaris

Mostly used when there is drawing pain often arising in lumbar region on one or both sides extending into different parts, as in renal colic and from passage of calculi. When the renal colic runs down the spermatic cord into the testes, and the patient is greatly disturbed, *Berberis* will very quickly relieve this particular kind of renal colic. *Berberis* makes the function of the kidneys normal and it has been shown to throw out the stones.

Benzoic Acid

The grand central characteristic of this remedy is found when the smell of the urine is very very offensive like the urine of a horse along with kidney stones and gout of the joints. This bad smell of the urine is found in connection with kidney colic along with cystitis.

Pareira Brava

Indicated when there is great straining, pain going down thighs during efforts to urinate. It is more indicated in bladder stones. Symptoms include violent pain in glans penis, itching along urethra and urethritis.

Lycopodium

Used in patients with severe backache, relieved by passing urine and graveluria. This drug has been used in many urethral conditions too.

Sarsaparilla

This drug is useful in condition associated with lower urinary tract symptom along with stones.

The list of homoeopathic medicines is long and only an expert can help identify one drug for a particular situation. However, there is ample scientific literature to show that the drugs are more effective than placebos.

Acupuncture has been effectively used to treat renal colic and result in stone passage. In one study acupuncture was shown to be more effective than morphine in treatment of renal colic due to calcium disease.

RECOMMENDED READING

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LITERATURE REVIEW

Patterns of Alcohol Consumption in Medical Students Garg Ashish; Chavan B. S. ; Pal Singh Gurvinder; Bansal Ekta ; *Kidney Int.* 2009; 75:1088-1098

A prospective study was carried out among undergraduate medical students of three different medical colleges in North India. The aim of this study was to assess the consumption pattern of alcohol among medical students and correlate psychiatric disturbance and parental alcohol consumption with the patterns of alcohol use in them. Using an anonymous, self-administered questionnaire, we surveyed 168 subjects who were at various stages of their undergraduate medical career. Alcohol was the frequently used substance by all groups; 56.57% ever used alcohol and 41.46% showed patterns of problem drinking. Alcohol dependence was found in 6.09% of the students; 71.95% students started consuming alcohol after admission in the medical college. Almost one-third of respondents (37.50%) were found to be clinically depressed, anxious, or experiencing psychiatric disturbances. Such students had a greater frequency of alcohol consumption ($p = 0.05$). Also, a strong association between positive family history of alcohol use/abuse and use of alcohol among medical students was found ($p=0.001$). Alcohol abuse amongst medical students should be taken more seriously because their own attitudes towards substances may influence their professional behaviour.

Next Issue Highlights

- **Editorial** : Oral hypoglycemic agents: A critical Appraisal
- **Update** : Managements of Anosmia : An update
- **Update in Therapy** : New Anti-micro bials: Challenges and issues
- **Symposium** : Menorrhagia : Management Strategies