

Chronic kidney disease:

Causation due to several factors

by Thulasi MUTTULINGAM

Scientists working in Sri Lanka and abroad might have found the preliminary cause of Chronic Kidney Disease, prevalent in the North Central district - although the results are not yet out.

According to Dr. Navaratnasingam Janakan, Consultant Epidemiologist of the Epidemiology Unit, Ministry of Health multipronged studies have been conducted and are being conducted here and abroad, on various aspects of the issue and the findings will be reviewed in a scientific committee meeting, sometime this month.



Dr. Navaratnasingam
Janakan

However, he cautions that the disease might not be due to just one particular factor, and that several contributing factors might have come together for causation.

"There are several different theories, that triphosphate fertiliser containing heavy metals such as cadmium, lead and arsenic are the cause, that high amounts of fluoride in water are the cause, and also that using poor quality aluminium utensils (which might react with the fluorides in the water) might be the cause," says Dr. Janakan.

"However, there is no evidence to pinpoint just one particular etiological factor. It might be a multifactored one. There are similar cases in the Balkan region that had been identified as early as the 1950s. It's called Balkan Endemic Nephropathy and its aetiology is still not well established."

Sri Lanka's neighbouring countries do not seem to have a problem of this nature. According to Dr. Janakan, the problem was first noted in 2000 when doctors working in Anuradhapura and Polonnaruwa noticed an unusually high level of chronic kidney disease (CKD) patients.

He says that the most striking thing about the CKD cases identified was that there didn't seem to be any underlying cause.

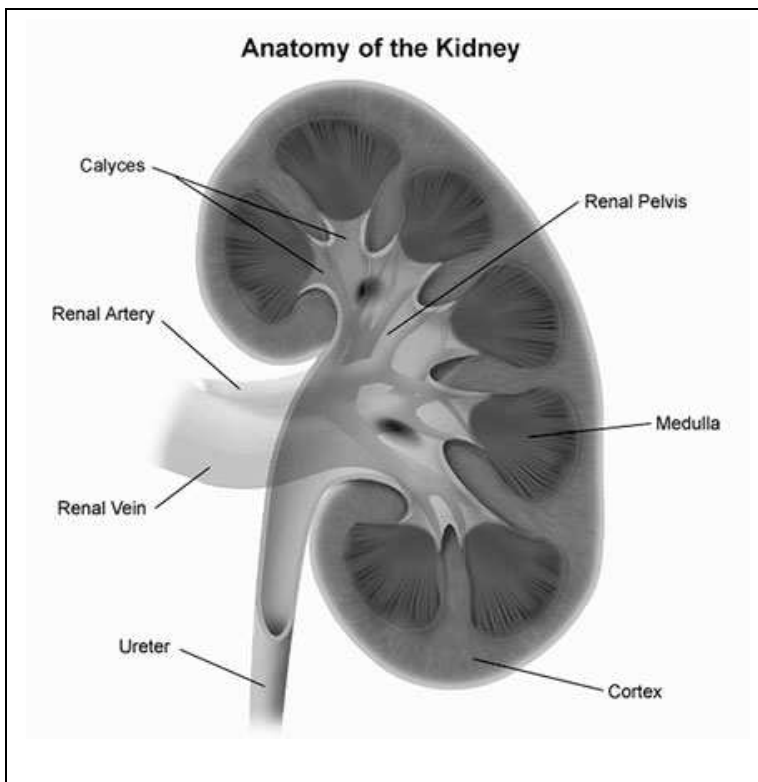
"Usually, CKD is secondary to some other chronic illness such as diabetes or hypertension or otherwise, snakebites. However in most of the cases identified from the North Central province, that is not the case."

Studies that were uncoordinated with each other were carried out by clinicians as well as academics, according to the doctor but no concrete evidence of causation was found.

In 2008, the then Health Minister Nirmal Siripala de Silva launched an official research program in collaboration with the World Health Organisation, coordinated by the Epidemiology Unit of the Ministry of Health.

"The program had two objectives; to find the cause of the disease as well as to provide services, mainly treatment facilities to the diagnosed patients," says Dr. Janakan.

"We have a number of studies going on in parallel, funded by the WHO and overseen by an International Advisory Committee. At present, there is a population prevalence study to get an estimate of the disease burden in high risk areas. The worst hit areas are Anuradhapura and Polannaruwa along with Trincomalee, Girandurukotte and Ampara, especially in areas bordering the North Central province.



We have also just completed studies of Environmental factors, by a team from the Peradeniya University and Sociological factors affecting the patients, such as social stigma (funded by the UNDP and coordinated by Disaster Management Centre) by a team from the University of Colombo.

There is also a post mortem study being conducted by researchers in the University of Antwerp, Belgium. We send them specimens from bone, liver and kidneys of patients of CKD (of both known and unknown etiological

factors) as well as patients who have died of other causes as a control group.

The researchers there do histological studies (studying tissues under the microscope) and metal mapping to see if any metals have got deposited in the tissues."

The results of most of these findings will be released only at the scientific meeting, which is planned for sometime this month though it has apparently not yet been scheduled.

"CKD is slowly progressive disease but especially in the North Central province, the symptoms are atypical and non specific. The patients suffer from backaches and loss of appetite in the initial stages. Being mostly farmers, they might not be bothered about something like backache as they suffer from it frequently. On a side note, it could be noted that frequent use of painkillers might be a cause.

It is only in the latter stages of the disease, that they get more serious and specific symptoms such as the swelling of legs or anaemia. It is then that they come for treatment, by which time, it might be too late." According to the doctor, the patients would not have noticed a difference in their urinal flow as that is not necessarily a symptom of CKD.

"They can still pass urine but the kidneys have been damaged and so do not carry out their filtering functions well. The only remedy for this is dialysis or organ transplant."

He also noted that while the disease could not be cured, its progress could be slowed through treatment. "Some people do not attend clinics as they think the disease can't be cured anyway. As a result, though we had 8400 patients registered in the North Central province since 2003, the numbers seem to have dropped now, though that is not the case."

The latest statistics are not available but in 2007, diseases of the urinary system was the ninth leading cause of death (in hospitals) island wide while in Anuradhapura it was the first leading cause and in Polannaruwa and Vavuniya, the second leading cause. In Moneragala, it was the fourth leading cause.

The doctor believes that Vavuniya too has a significant amount of cases though he says statistical evidence and studies in the area are lacking.

Asked if the stress due to war could be a factor, he notes that stress might lead to mental health and heart related problems but not kidney related problems.

Figures of 2006 show that 22% of cases and 17% of deaths due to renal failure are from the North Central province while its population amounts to only 6% of the country.

He declined to comment on the findings that would be released at the scientific meeting but said that the objective was to differentiate the CKD of known causes with the CKD of unknown causes.