3.4 INCREASING NUMBER OF CASES OF UROLITHIASIS OF UNKNOWN ORIGIN IN THANAMALWILA AND LUNUGAMVEHERA: COULD IT BE DUE TO THE SAME AETIOLOGY OF CKD*u*

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Introduction: Aetiology of Urolithiasis includes high dietary salt intake. It may be naturally occurring or due to anthropologic activity such as irrational agrochemical use, causing high salt content in drinking water sources. Hardness is associated with high ion content of water and there is a known positive co-relation between hardness and arsenic content in water.
Objectives: To study the increasing trend of urolithisis in Thanamalwila and Lunugamvehera areas.

Methodology: Descriptive study of incidence of urolithiasis has been performed by using IMMR based statistics of DH Thanamalwila and DH Lunugamvehera.. Multiple random sampling of drinking water sources from these areas was done. They were analyzed for hardness and arsenic content using atomic absorption spectrometer with graphite furnace detector.

Results: Increasing trend of cases of urolithiasis has been identified. Three, 07 and 15 cases have been reported from Thanamalwila in year 2009,2010 and 2011 respectively. Seven, 11,09,46 and 48 cases have been reported from Lunugamwehera from 2007 to 2011. Water samples from Lunugamwehera and Thanamalwila detected to contain 12+3– 352+34 mg L-1 and 170+8 - 500+24 mg L-1 hardness respectively. Water hardness had shown a correlation with the arsenic levels. Arsenic levels were 2.14+0.84 – 52.47+6.71 µg L-1 in Lunugamvehera and 39.37+5.21- >100.42+9.45 µg L-1in Thanamalvila.

Conclusion: There is an increasing trend of urolithiasis and high hardness and arsenic content of drinking water sources. Further studies are needed to find out any possible link between urolithiasis, high water hardness and high arsenic content of the drinking water sources. In CKDu endemic areas it was found to be having very high hardness and high arsenic content in ground water. Though such a very high level of hardness and arsenic is not observed, possible role by those factors in urolithiasis cannot be excluded.