

# VITAMIN D DEFICIENT (NUTRITIONAL) RICKETS PRESENTING IN INFANCY

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## BACKGROUND

Rickets is a disease of growing bones due to defective mineralization at growth plates in growing children. Nutritional rickets due to vitamin D deficiency is one of the causes for rickets

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
<b>Age</b>	2/12	2/12	4/12	3/12	5/12	3/12
<b>Ethnicity</b>	Sinhala	Sinhala	Muslim	Sinhala	Sinhala	Muslim
<b>Parity</b>	P3C3	P2C2	P5C5	P3C3	P3C3	P4C3
<b>Presenting complaint</b>	Afebrile convulsions	Convulsions associated with fever	Afebrile convulsions	Afebrile convulsions	Afebrile convulsions	Afebrile convulsions

- ✓None of them had clinical features of rickets
- ✓All of them were term exclusively breastfed babies without any perinatal complications.
- ✓Their mothers had taken only Calcium supplementation antenatally.
- ✓All mothers were asymptomatic.

## INVESTIGATIONS

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
<b>S. Corrected Ca</b>	0.85mmol/l (2.2 – 2.7mmol/L)	1.68mmol/l	1.3mmol/l	1.1mmol/l	1.4mmol/L	1.27mmol/l
<b>Serum PO4</b>	1mmol/L (1.45-2mmol/L)	1.3mmol/L	1.22mmol/L	1.4mmol/L	1.2mmol/L	1.29mmol/L
<b>ALP</b>	812 IU/L (60-425IU/L)	1211 IU/L	1306 IU/L	550 IU/L	620IU/L	1507 IU/L
<b>Mg</b>	0.8mmol/L (0.6-1mmol/L)	0.9mmol/l	1.1mmol/l	0.8mmol/l	0.7mmol/L	0.7mmol/L
<b>25 OH Vit D of baby</b>	11nmol/L (>50nmol/L)	27nmol/L	38nmol/l	24nmol/L	21nmol/L	26nmo/L
<b>PTH</b>	120pg/ml (10-65pg/ml)	170pg/ml	199pg/ml	68pg/ml	97pg/ml	82pg/ml
<b>X ray left wrist</b>	All had evidence of rickets Splaying Cupping Fraying					
<b>Bone profile of mother</b>	Normal	Normal	Normal	Normal	Normal	Normal
<b>25 OH Vit D of mother</b>	46nmol/L (>50 nmol/L)	48nmol/L	45nmol/L	46nmol/L	40nmol/L	35nmol/L



## MANAGEMENT

- Initially managed with IV Calcium infusion, Calcitriol and oral Calcium supplementation to bring up the Calcium level.
- Therapeutic dose of Ergocalciferol with Calcium supplementation for three months and then the maintenance dose of Ergocalciferol for six months titrating with the bone profile.
- Mothers were given vitamin D and Calcium supplementation.

## CONCLUSION

- Rickets in infancy can present only with seizures without any other clinical features.
- High index of suspicion is needed as this can be treated easily.

