

Retrospective Evaluation of Patients Diagnosed as Nutritional Rickets: A Single Center Study

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INTRODUCTION

Nutritional rickets continues to be an important health care problem. Its incidence has decreased in our country following the free vitamin D distribution that started in 2005 but it continues to stay on the agenda as a preventable disorder. The aim of the our study was to evaluate patients diagnosed with nutritional rickets following the vitamin D supplementation program.

METHOD

We evaluated patients diagnosed with nutritional rickets between 2006 and 2011 at the Dr. Sami Ulus Obstetrics and Gynecology and Pediatrics Training and Research Hospital. Nutritional rickets was defined with rickets-specific radiological findings and one of elevated alkaline phosphatase or decreased 25 hydroxyvitamin D (25OHD) in addition to hypocalcemia and the response to treatment.

RESULTS

The 93 nutritional rickets patients consisted of 39 (41%) girls and 54 (59%) boys. The mean age was 19.1 ± 35.1 months. The patients had presented mostly in February and May and only 20% had been receiving vitamin D supplementation. A concurrent disorder was present, in 46%. The most common sign at presentation was hypocalcemic seizure (28%, n:26). The physical examination usually revealed widening of the wrists and rachitic beads. Hypocalcemia was present in 46% (n:43) and single large doses of vitamin D (Stoss) therapy had been administered to 53% (n:49).

Table 1. Age distribution of the nutritional rickets patients at the time of presentation

Age	Mean age (months)±SD	n (%)
0-3 months	2.3±0.65	16 (17)
3 months-3 years	11.5±8.2	69 (74)
>3 years	117±57	8 (9)
Total	19.1±35.1	93 (100)

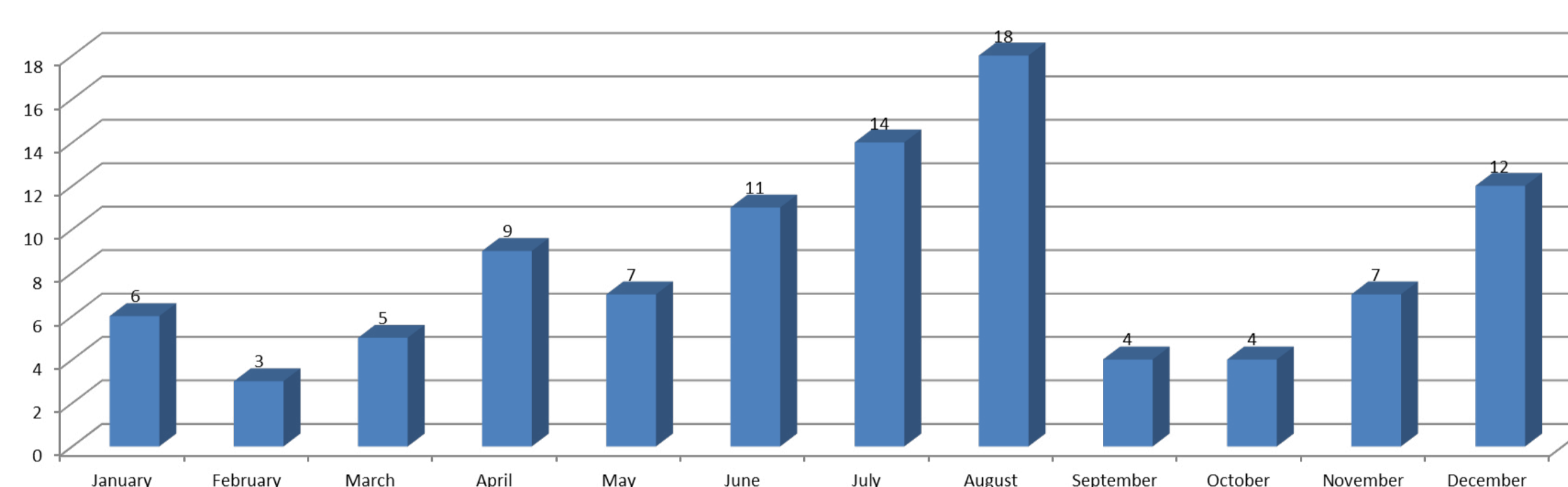


Figure 1. Distribution of nutritional rickets cases according to birth months

Table 2. Vitamin D intake status of the nutritional rickets cases

Vitamin D intake status	n(%)
No intake	46 (63)
Irregular intake	12 (17)
Regular intake	15 (20)
Total	73 (100)

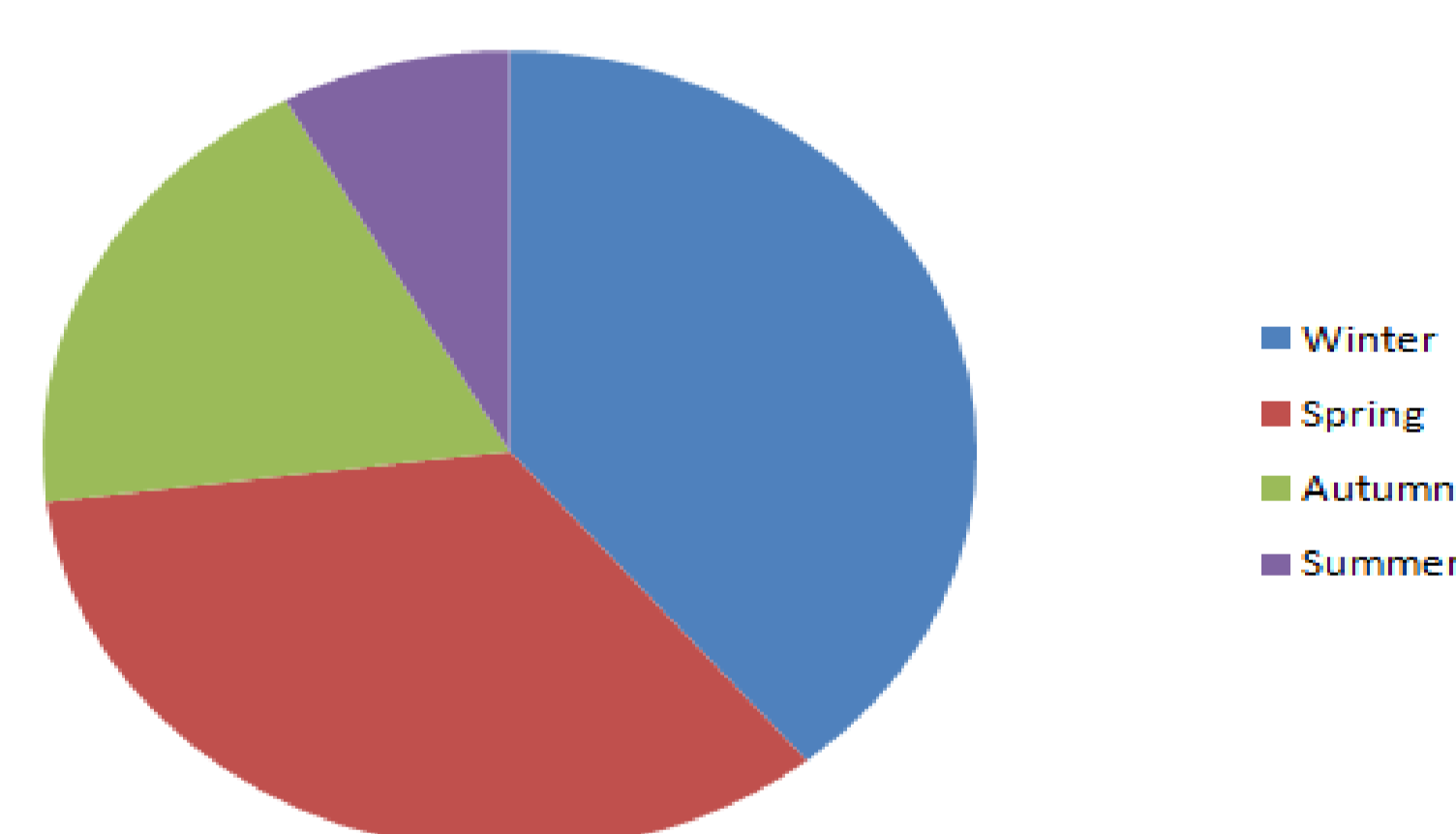


Figure 2. Distribution of nutritional rickets cases according to application season

Table 3. Laboratory findings at presentation in nutritional rickets cases

Laboratory values	Mean±SD (Range)
Calcium (mg/dl)	7.9±1.7 (4.6-10.2)
Phosphorus (mg/dl)	4.3±1.3 (1.2-8.1)
Alkaline phosphatase (IU)	1425±1381 (461-7954)
25-hydroxyvitamin D (25OHD)	10.6±9.3 (0.1-29)
PTH (pg/ml)	280±229 (83-1084)

CONCLUSION

Vitamin D is an important factor for rickets prevention and that the vitamin D distribution strategy used across our country is successful. However, family physicians and pediatricians need work harder for the vitamin D support program to be used by families more commonly. The fact that rickets cases can develop despite vitamin D supplementation also indicates that the 400 IU vitamin D dose currently used needs to be reviewed. The continued existence of rickets in the 0-3 months age group despite a decrease in numbers emphasizes the importance of providing vitamin D supplementation to pregnant and nursing women.

