

## Oral Health Status and Treatment Needs of Rastafarians in the Jamaican Population

The Editor,

Sir,

Dental caries and gingivitis are considered to be the most common dental diseases. Dietary intake and oral hygiene practices play a major role in the development of these dental diseases. Rastafari is a cultural, religious movement that began in Jamaica and its adherents are known as Rastafarians or Rastas (1). Rastafarians often use herbs for medicinal purposes to strengthen and heal the body. Rastafarians disapprove of smoking cigarettes due to the serious health concerns associated with their use (2).

This letter reports a pilot study of the oral health status and treatment needs of Rastafarians in a targeted segment of the Jamaican population. The study was based on the clinical examination of 17 volunteer participants from the Biennial Rastafarian Conference in Jamaica in 2013. The study was conducted at The University of the West Indies, Jamaica. A thorough history was taken, and clinical and systemic examinations were performed. The participants were examined for dental caries, fillings, extractions, malocclusions, crowns and root remnants. Decayed, missing, filled of permanent tooth (DMFT) index scores were calculated, and the treatment need was assessed. The results of the study were analysed by SPSS software version 19.0 (Armonk, NY) and presented as descriptive statistics.

The age of the total study population ranged from 1–80 years, with a mean age of 46 years. Approximately one-quarter of the participants were in the age range of 71–80 years (23.52%; 4/17). Three minors were also numbered among the participants. The distribution by gender showed higher male subjects, 76.57% (13/17).

The distribution of dental and oral disease in the study group showed higher prevalence of dental caries, 94.11% (16/17); gingivitis, 64.70% (11/17); periodontal problems, 58.82% (10/17); malocclusion, 23.53% (4/17); geographic tongue, 5.88% (1/17) and leukoplakia, 5.88% (1/17).

The DMFT score of the present study suggests a higher total missing score, 174 (mean value 10.23), in comparison with total decayed score, 28 (mean value 5.00) and total filled score, 20 (mean value 1.17). The higher missing tooth value in the study is due to the increased elderly age group.

Based on the DMFT score observation, a higher prosthodontic rehabilitation is required for the subjects. The

treatment needs for the study group show a higher prosthodontic rehabilitation treatment need, 64.70% (11/17) and periodontal care, 64.70% (11/17); operative care/restorations, 47.05% (8/11); orthodontic care, 23.52% and oral cancer screening/diagnostics, 5.88%. The prosthodontic rehabilitation needs in the study group show full prosthesis requirement in 41.17% (7/17) and a need for multi-unit prosthesis in 23.50% (4/17).

The study also recorded that 35.29% of the study population require full prosthesis, 17.64% require multi-unit prosthesis and 11.76% require a combination of one and/or multi-unit prosthesis. This confirms a higher prosthodontic rehabilitation (64.70%) is required in the study group.

The major limitation of the study is the small sample size, which does not statistically represent the actual total of Rastafarians in Jamaica. The limited time frame to examine each subject was a constraint. A standard format of dietary style and personal lifestyle is required to correlate the oral health status with the Rastafarian population, since dental caries can be prevented by healthful dietary and good oral hygiene behaviours (3).

In conclusion, the study points to a possible higher requirement of prosthodontic rehabilitation for the Rastafarian elders in the Jamaican population. Practising dental surgeons need to be updated with the treatment options for geriatric prosthodontic care. Special encouragement for periodontal disease awareness and intervention to the geriatric population is stressed.

**Keywords:** DMFT score, Jamaica, oral health status, Rastafarians, Rastas, treatment needs

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### REFERENCES

1. Olsen B. Consuming Rastafari: ethnographic research in context and meaning. *Advances in Consumer Research* 1995; **22**: 481–5.

- Barrett LE. The Rastafarians: 20<sup>th</sup> Anniversary Edition. USA: Beacon Press Books; 1997: 140–267.
- Touger-Decker R, Mobley C; Academy of Nutrition and Dietetics. Position of the Academy of Nutrition and Dietetics: oral health and nutrition. J Acad Nutr Diet 2013; **113**: 693–701.

### Coexistence of Heterotopic Ossification of the Elbow and Vitamin D Deficiency following Stroke: Can Calcium and Vitamin D Treatment Aggravate Ossification?

The Editor,

Sir,

A 44-year old woman with bilateral hemiplegia was transferred to our clinic for the rehabilitation programme. In her medical history, she had suffered a stroke three months ago and had been followed-up in the intensive care unit for about 30 days. On physical examination, she was cachectic. The Brunnstrom's stages of the upper and lower limbs and hand were 1 on the right side, and those of left upper extremity, hand and lower extremity were 5, 5, 3, respectively. She had motor aphasia as well. Range of motion of both hip joints was painful. She also had limited range of motion in her right elbow joint. The patient was completely dependent according to Barthel Index. Elbow radiograph demonstrated heterotopic ossification (HO) around the right elbow joint and anterior-posterior radiograph of the pelvis showed looser zone [Milkman's pseudofracture] (Figure). Left hand radio-

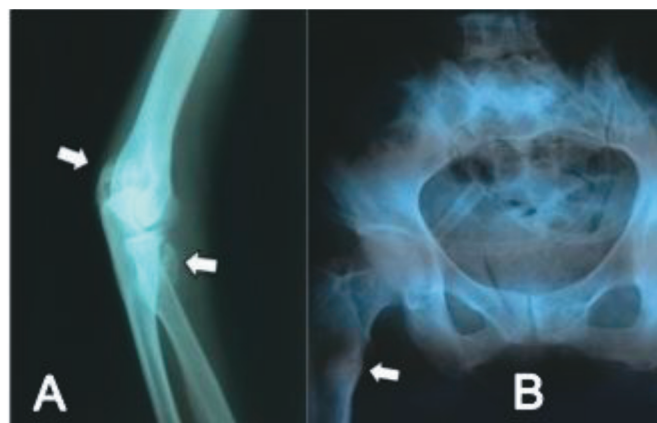


Figure: Lateral radiograph of the right elbow showing heterotopic ossification (A) and anterior-posterior pelvis radiograph designating the looser zone (Milkman's pseudofracture) of bilateral femoral necks (B).

graph was also consistent with regional osteoporosis indicating complex regional pain syndrome. Vitamin D level (19.17 ng/mL) and other laboratory data of the patient are shown in the Table. Overall, the patient was diagnosed with vitamin D deficiency (1), HO and complex regional pain syndrome. After 25-OH vitamin D supplementation, she was treated with calcitonin nasal spray 200 IU/d and calcium 1000 mg plus vitamin D 800 IU/d.

Table: Some of the laboratory test results of the patient

Laboratory investigation	Patient's data	Normal range
Intact PTH, pg/mL	28.59	15–65
ESR, mm/h	49	0–20
Serum calcium, mg/dL	9.1	8.5–10.5
Total albumin-corrected calcium, mg/dL	10.1	8.2–10.6
Phosphorus, mg/dL	3.6	2.5–5.0
Alkaline phosphatase, U/L	131	30–120
24-hour urinary calcium, mg/day	19.02	100–300
Urinary calcium in spot urine, mg/dL	1.3	7–21
Urinary creatinine in spot urine, mg/dL	18	30–225
Total protein, g/dL	5.9	6.6–8.7
Albumin, g/dL	3	3.5–5.2
Collagen Type 1 C1CP, pg/mL	2678	< 570
Osteocalcin, ng/mL	85.39	11–43

ESR: erythrocyte sedimentation rate; PTH: parathyroid hormone

Neurogenic HO after stroke is a rare condition with an incidence of 0.5–2%. In the hitherto literature, there is a limited number of reports with respect to HO after stroke, and the hip is the most commonly involved joint. In general, HO has been reported on the paretic side and rarely on the non-paretic side (2, 3). To the best of our knowledge, HO around the elbow joint after stroke is quite a rare condition. Presentation of our case is two-fold. First, we would like to exemplify a rare condition of HO after stroke and caution clinicians that the elbow should also be taken into account regarding HO development. Second, coexistence of HO and Milkman's pseudofracture has not been documented before. In our case, Milkman's pseudofracture made the clinical condition more challenging. As per the treatment of metabolic bone diseases (*eg* osteomalacia and osteoporosis), when they coexist with HO, there is lack of sufficient data in the current literature. Calcium-vitamin D treatment for metabolic bone diseases can aggravate HO during the immature period. On the other hand, osteoporosis/osteomalacia without intervention can result in severe disabilities such as fractures. Further studies considering the treatment of metabolic bone diseases in patients with HO are needed.

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### REFERENCES

- Holick MF, Binkley NC, Bischoff-Ferrari HA, Gordon CM, Hanley DA, Heaney RP et al. Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline. J Clin Endocrinol Metab 2011; **96**: 1911–30.