Regarding fragility fractures, 32.0% of female patients and 26.7% of male patients have recently experienced a fracture, but there is no significant association between gender and fracture occurrence (p = 0.776). BMI distributions are as follows: underweight (5.1%), normal weight (29.9%), overweight (18.2), and obese (35.8%). The mean BMI of the fracture group is 25.56 (SD 6.629), while that of the non-fracture group is 23.89 (SD 4.206). There is no significant association between BMI and fragility fractures (p = 0.098).

Among the 122 patients who had T-scores from DXA results, a minor discordance in T-scores was found in 48 patients (45.5%), which was defined as the lumbar spine T-score is below -2.5 but the hip T-score is between -1 and -2.4. Although there were 117 osteoporotic patients, only 104 of them received treatment. The most commonly used drug for treatment is oral bisphosphonates (32.8%), followed by SC Denosumab, IV zoledronate, and SC teriparatide.

CONCLUSION

This study demonstrates that for those identified to have osteoporosis in this institution, females predominate, and the majority of the attendees have one or more underlying diseases, with type 2 diabetes being the most common associated disease. Osteoporotic fracture is not associated with gender or BMI but is associated with aging. Oral bisphosphonates were the most commonly prescribed drug for osteoporosis in the study patients.

KEYWORDS

osteoporosis, type 2 diabetes, FRAX, bisphosphonates, fracture

PP-B-07

A LARGE AGGRESSIVE PHOSPHATURIC MESENCHYMAL TUMOR OF THE HUMERUS: SURGICAL MANAGEMENT AND BUROSUMAB THERAPY FOR TUMOR-INDUCED OSTEOMALACIA

https://doi.org/10.15605/jafes.038.AFES.59

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CASE

Tumor-induced osteomalacia (TIO) is a rare condition caused by phosphaturic mesenchymal tumors (PMTs) that overproduce FGF23, resulting in renal phosphate wasting. We present a case of a 74-year-old female with a right humeral fracture. MRI revealed a large (6.4x7.2x8.2 cm) enhancing lesion in the proximal right humerus, confirmed as a PMT by core biopsy. Laboratory findings showed persistent hypophosphatemia and FGF23 levels >30,000 pg/mL. The PMT was excised, and impaction bone allograft fixation was performed. Pathology results indicated a non-malignant tumor but with features warranting concern. The PET scan showed no metastatic disease, and residual tumor was suspected as the cause of persistent hypophosphatemia. Postoperatively, burosumab, an antibody targeting FGF23, was initiated to restore phosphorus levels and alleviate bone pain. This case underscores the complexity of managing TIO with a large PMT, necessitating a multidisciplinary approach involving various specialties. Burosumab demonstrates promise as an effective treatment option when surgical intervention alone may be insufficient.

KEYWORDS

tumor-induced osteomalacia, phosphaturic mesenchymal tumor, burosumab

PP-B-08

CASE SERIES OF OSTEOMALACIA SECONDARY TO RENAL TUBULAR ACIDOSIS TYPE 1 WITH VITAMIN D DEFICIENCY

https://doi.org/10.15605/jafes.038.AFES.60

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CASE

Osteomalacia is a disease of inadequate bone mineralization. Its association with RTA type 1 is less established. Early recognition is essential to treat and prevent osteomalacia. We report 2 cases of Malaysian females with osteomalacia and RTA type 1. The first patient, 36 years old, was wheelchair-bound. Initial BMD showed a hip Z-score of -3.9 and a T-score of -4.0. Recent BMD showed a hip Z-score of -1.5 and a T-score of -1.6. The second patient, 38 years old, presented with muscle weakness and bone pain. The vitamin D level was 9.6 nmol/L. Initial BMD showed a T-score of -2.1. The latest BMD showed a T-score of 1.7 and a Z-score of 1.7. Both patients made a complete recovery after initiation of treatment. Type 1 RTA may present later with osteomalacia. Correction of acidosis along with the concomitant correction of vitamin D is crucial to successfully treat these patients.

KEYWORDS

RTA Type 1, osteomalacia, vitamin D deficiency