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AUDIT ON BISPHOSPHONATE THERAPY IN CHRONIC ILLNESS OSTEOPOROSIS IN HOSPITAL TUNKU AZIZAH

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INTRODUCTION

The incidence of secondary osteoporosis in children is on the raise due to improved long-term outcomes for children with chronic conditions. It causes significant morbidity if left untreated, including pain due to fractures and subsequent immobilisation.

METHODOLOGY

The clinical notes and imaging findings of the recipients of bisphosphonate therapy from 2019 to 2022 were traced through the electronic medical record system.

RESULTS

A total of five patients received bisphosphonate therapy during the study duration. Their ages ranged from 7 months to 15.5 years. All patients presented with vertebral compression fractures. Two patients had concurrent long bone fractures. Identified risk factors for osteoporosis included chronic inflammatory condition, neuromuscular disorder and prolonged steroid administration (one patient with Crohn's disease, one patient with Duchenne muscular dystrophy); vitamin D deficiency (Alagille syndrome and end-stage liver disease secondary to biliary atresia) and malignancy (acute lymphoblastic leukaemia). Three patients received intravenous zoledronic acid while another two received pamidronate. There was no recurrence of fracture after initiation of bisphosphonate therapy. The patient with Crohn's disease had completed bisphosphonate therapy at 18 years old. There was marked bone mineral density improvement (184%) with lumbar spine Z-score ameliorated from -4.7 to -1.7. The teenager with Duchenne muscular dystrophy had the least recuperation. Two patients developed serum sickness syndrome during the first infusion of intravenous bisphosphonate. The toddler with end stage liver disease died after liver transplantation due to septicaemia and disseminated intravascular coagulopathy.

CONCLUSION

Bone health surveillance should be offered to all children with risk factors. Bisphosphonate therapy should be offered to children with secondary osteoporosis.