Genu Valgum in case of Multiple Hereditary Exostosis

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INTRODUCTION:

Multiple Hereditary Exostoses (MHE) presents in a spectrum from restriction in mobility to alignment disorders. Alignment disorders include genu valgus where causative factors as well as specific treatment strategies are not often studied upon.

REPORT:

Thirteen-year old boy presented with multiple bony swellings and worsening 'knock knees'. Clinically patient had bilateral genu valgum with bony swellings overlying distal femur and proximal tibia. Active range of motion of the knees was 10-90°. Plain radiographs showed sessile exostosis at medial aspect of distal femur and proximal tibia physis. Long limb radiograph was done to assess deformity where bilateral anatomical lateral distal femoral angle (LDFA) were within normal limits. However anatomical medial proximal tibia angle(MPTA) was 98° bilaterally which was increased as compared to normal values of 80-85°.

We performed a proximal tibia hemiepiphysiodesis and exostoses excision. The physis was identified with C-arm fluoroscopy and K-wire inserted parallel to joint line in the mid-sagittal plane. Once satisfactory position obtained '8' plate was applied. Post operatively, patient was discharged on day 3 with no complications.

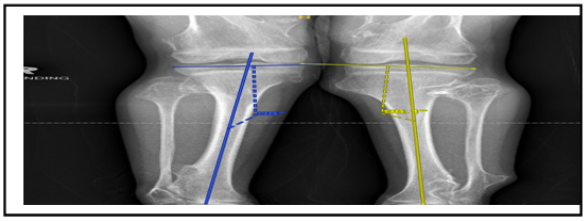

Figure 1: Bilateral tibia with MPTA of 98 degrees

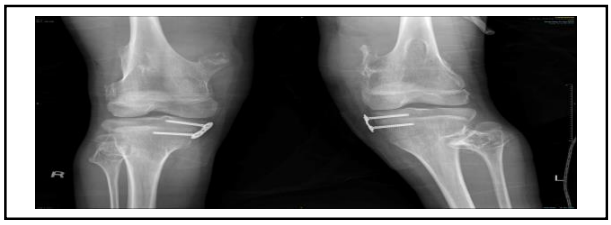

Figure 2: Post Operative radiographs with implant

Liu et al studies the factors that causes genu valgus in patients with MHE. The study postulates sessile lesions have larger base and contribute to higher possibility of malalignment. Secondly, metaphyseal flaring may account for the destruction of physis that results in deformity. Another dilemma encountered is whether to remove exostosis. Alexandra et al reports two cases of rapidly progressing genu valgum post excision. The inferred mechanism is excision causes increased blood flow to the injured area that stimulate asymmetric bone growth.

CONCLUSION:

Progression of genu valgus are influenced by lesion morphology, metaphyseal flaring and history of exostosis excision. Early detection would yield better outcomes as the rate of deformity correction in children with HME is slower.

REFERENCES:

1. Potential Influence of factors for Genu valgus with MHE . Liu et al. July 2022 Journal of Peadiatric Orthopaedics.