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OUTCOME OF CHILDREN WITH TURNER SYNDROME ON GH THERAPY; INSIGHTS FOR FUTURE DIRECTION

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INTRODUCTION
The use of growth hormone (GH) in children with Turner syndrome (TS) was approved in 1996. In UMMC, a small proportion of children with TS had completed GH therapy. We describe the outcome of these children at their last visit.

METHODOLOGY
This is a retrospective audit from 2000 to 2020. Data at diagnosis including anthropometric, karyotyping and GH doses were documented. Clinical parameters were collected at the last clinic visit or at 18 years old.

RESULTS
A total of 12 girls completed GH therapy since 2000. Ten (83%) were 45XO. Median age at GH initiation was 10.35 years (5.46 to 14.04). Standard deviation scores (SDS) at the start of GH therapy were: mean height -3.4 ± 1.2, TS SDS -0.7 ± 0.9, measured parental height (MPHSDS) -2.0 ± 1.2 and body mass index (BMISDS) 0.03 ± 1.5. The median age at stopping GH was 15.38 years (11.37 to 18.32). After treatment, the scores were: mean FHSDS -2.6 ± 1.3; TSSDS 0.8 ± 1.4, MPHSDS -1.5 ± 0.97 and BMISDS 0.1 ± 1.1. HTSDS significantly improved after GH treatment ($p<0.001$). Eight (66%) girls' FH were short (-1.5SDS to -2SDS) of their MPH target range. Only one child had -1.5 TS SDS post-GH treatment. GH doses were between 0.042 to 0.059 mg/kg/day (median 0.055 mg/kg/day). Although there were no significant differences between BMI before and after treatment, none were obese. One developed hypertension at last clinic visit, and none developed diabetes. Four had mild scoliosis during the GH treatment period.

CONCLUSION
GH use in TS improve FH outcome especially when referring to TS SDS. Only one in three TS girls grew to their MPHSDS target. GH use seems to reduce obesity and early metabolic complications. More samples needed to analyse factors determining outcome of GH use in TS.