

Disease-specific growth charts of Marfan syndrome in Korea

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Background

Patients with Marfan syndrome (MFS) presents with primary skeletal manifestations such as tall stature, chest wall abnormality, and scoliosis. And these primary skeletal manifestations affect the growth pattern in MFS. Therefore, it is not appropriate to use normal growth charts to evaluate the growth status of MFS.

Methods

Anthropometric data were available from 187 males and 152 females with MFS through a retrospective review of medical records. The standardized growth curves were constructed for weight and height according to gender. Comparisons between MFS patients and the general population were performed using a one-sample T-test.

Results

Korean MFS patients had similar height and weight compared with the general population at birth. However, linear growth curve of Korean MFS after two years of age showed that the 50th percentile of MFS is above the 97th percentile of normal in both genders. Regarding body mass, although the mean body weight of MFS patients was larger than that of the general population in males and females, the gap of the mean weight curve was small. In the Korean MFS growth curve, the growth pattern and final adult height were nearly analogous to those of the United States (US).

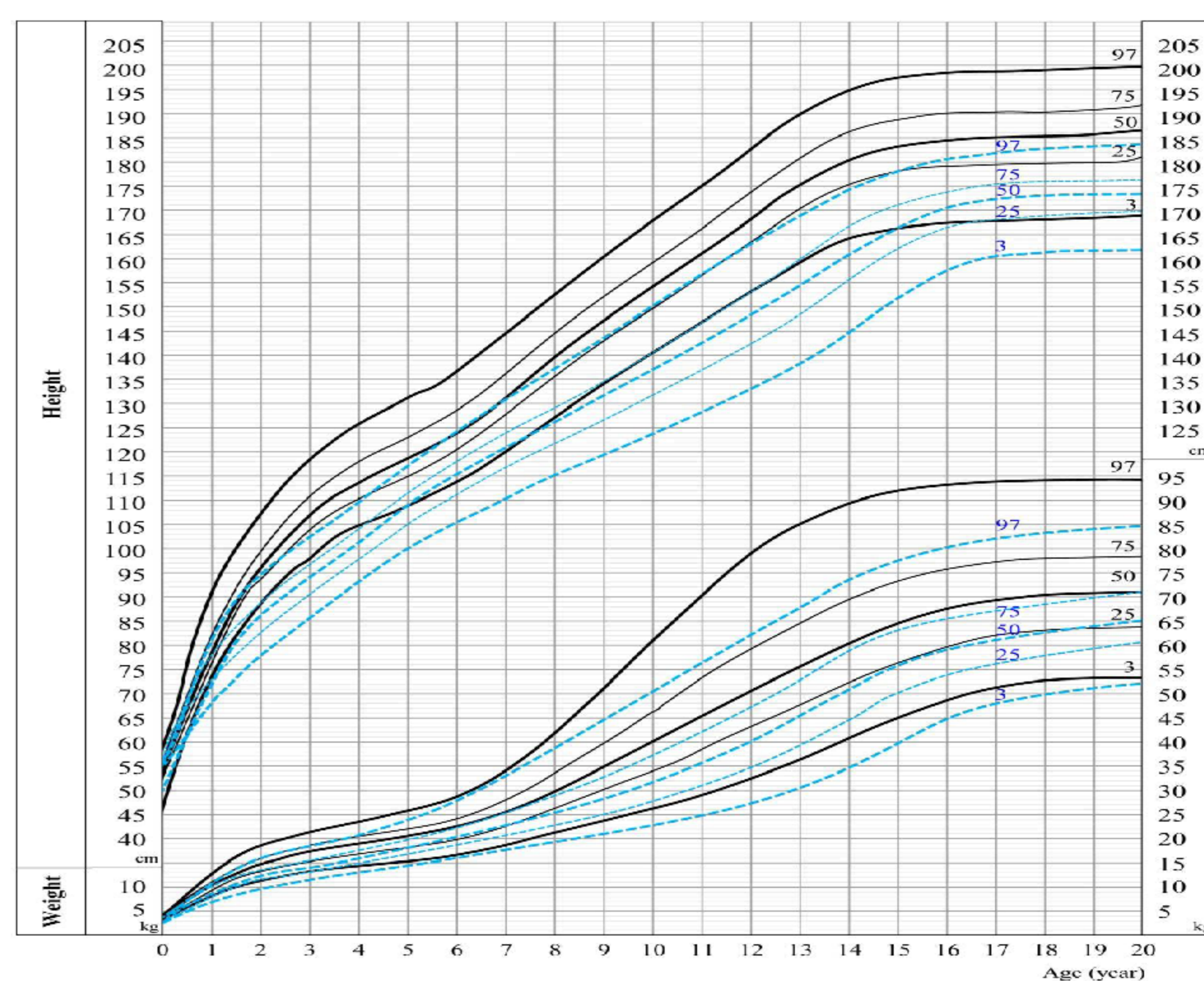


Figure 1. Growth curve of males with Marfan syndrome

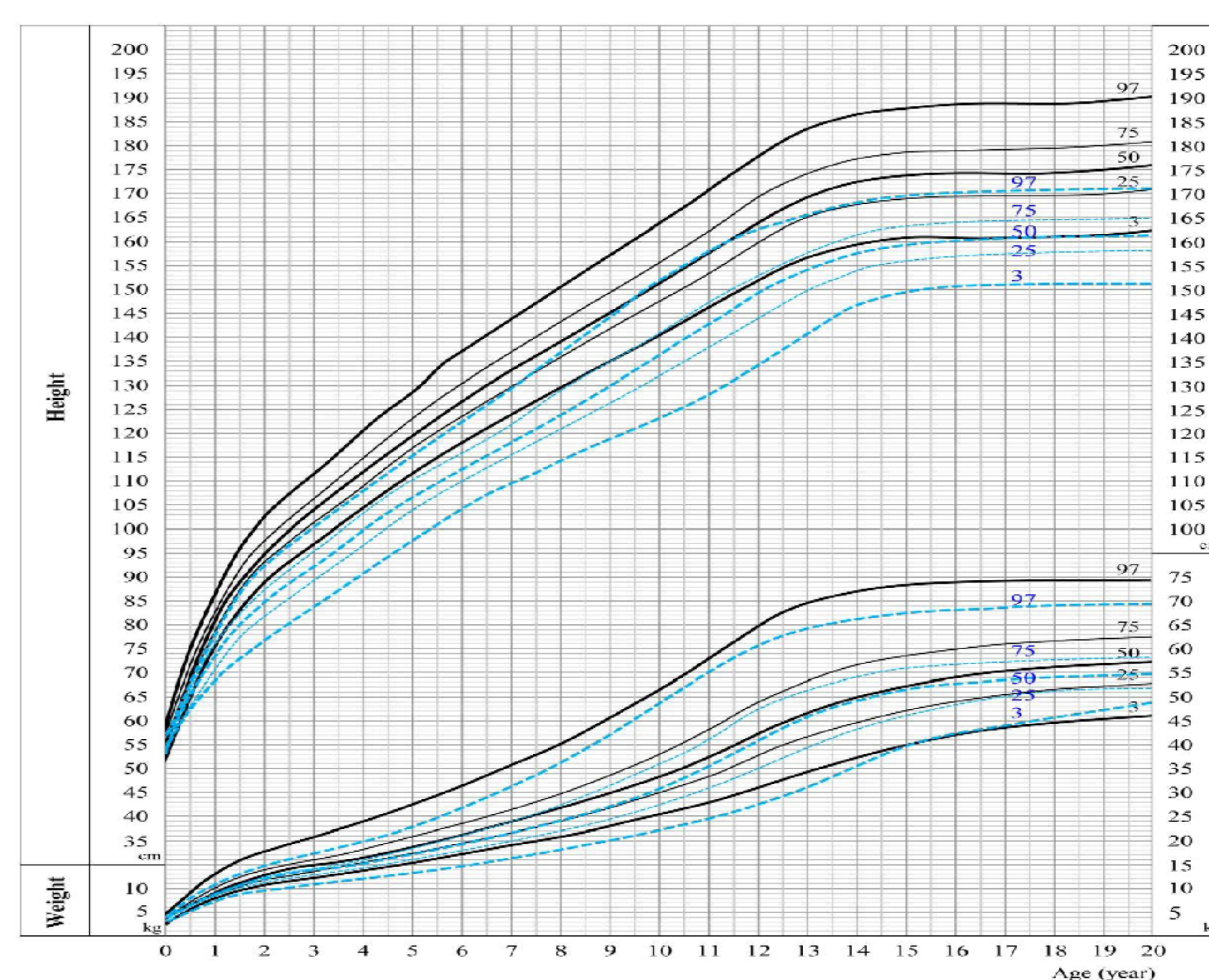


Figure 2. Growth curve of females with Marfan syndrome

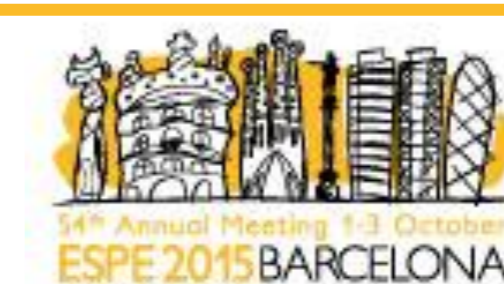
Conclusion

Korean MFS-specific growth charts showed that an excessive growth pattern began in the early infant period, which was prominent in terms of linear growth compared to body mass. There were no ethnic differences in the growth pattern compared with Western MFS patients. The disease-specific growth charts for Korean patients with MFS can be useful for monitoring growth patterns, planning the timing of growth-reductive therapy, predicting adult height and recording responses to growth-reductive therapy.



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