



מרכז שניידר לרפואת ילדים בישראל  
 מרכז שניידר לרפואת הילדים והנוער  
 Schneider Children's Medical Center of Israel  
 Member of Clalit Health Services

# WOLMAN DISEASE: LONG-TERM ENDOCRINE AND METABOLIC COMORBIDITIES



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## Introduction

- Wolman Disease (WD) is a rare, autosomal recessive disease caused by lysosomal acid lipase (LAL) deficiency and characterized by accumulation of cholesterol-esters and triglycerides primarily in the liver and spleen.
- Patients present within the first year of life with a rapidly progressive disease.

## Aim

- Describe the long-term endocrine and metabolic comorbidities of WD, treated with allogeneic cord blood transplantation (SCT).

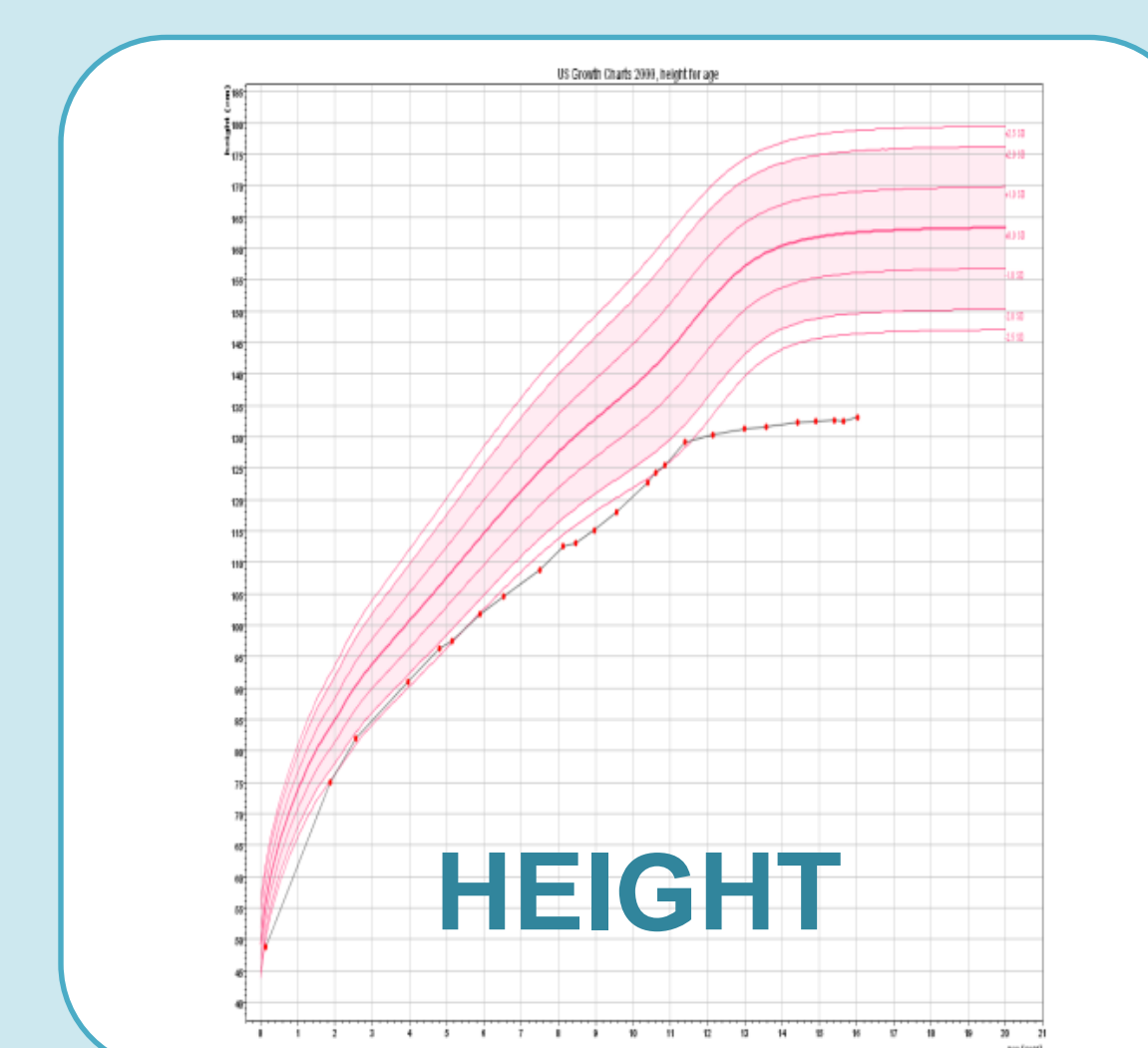
## Subject

- A girl born to consanguineous parents was diagnosed with WD due to characteristic manifestations and family history (genetically confirmed).
- At the age of 2 months she underwent allogeneic SCT with conditioning therapy of TBI, antithymocytic globulin & Cytoxan.
- She has been followed at our center for 16 yrs.

## Results

### Growth:

- Normal growth hormone stimulation testing at 5yrs (height -2.4s.d.) and 7.5yrs (height -3.1s.d.)
- IGF-1 levels were elevated with continuous increase > +2SD over time.
- Levels of other pituitary hormones were normal.
- OGTT: normal GH suppression.
- IGF-1 receptor gene analysis - a novel heterozygous benign variant.
- By 14yrs, final height was reached (-4.5s.d.) and IGF-1 levels normalized spontaneously.

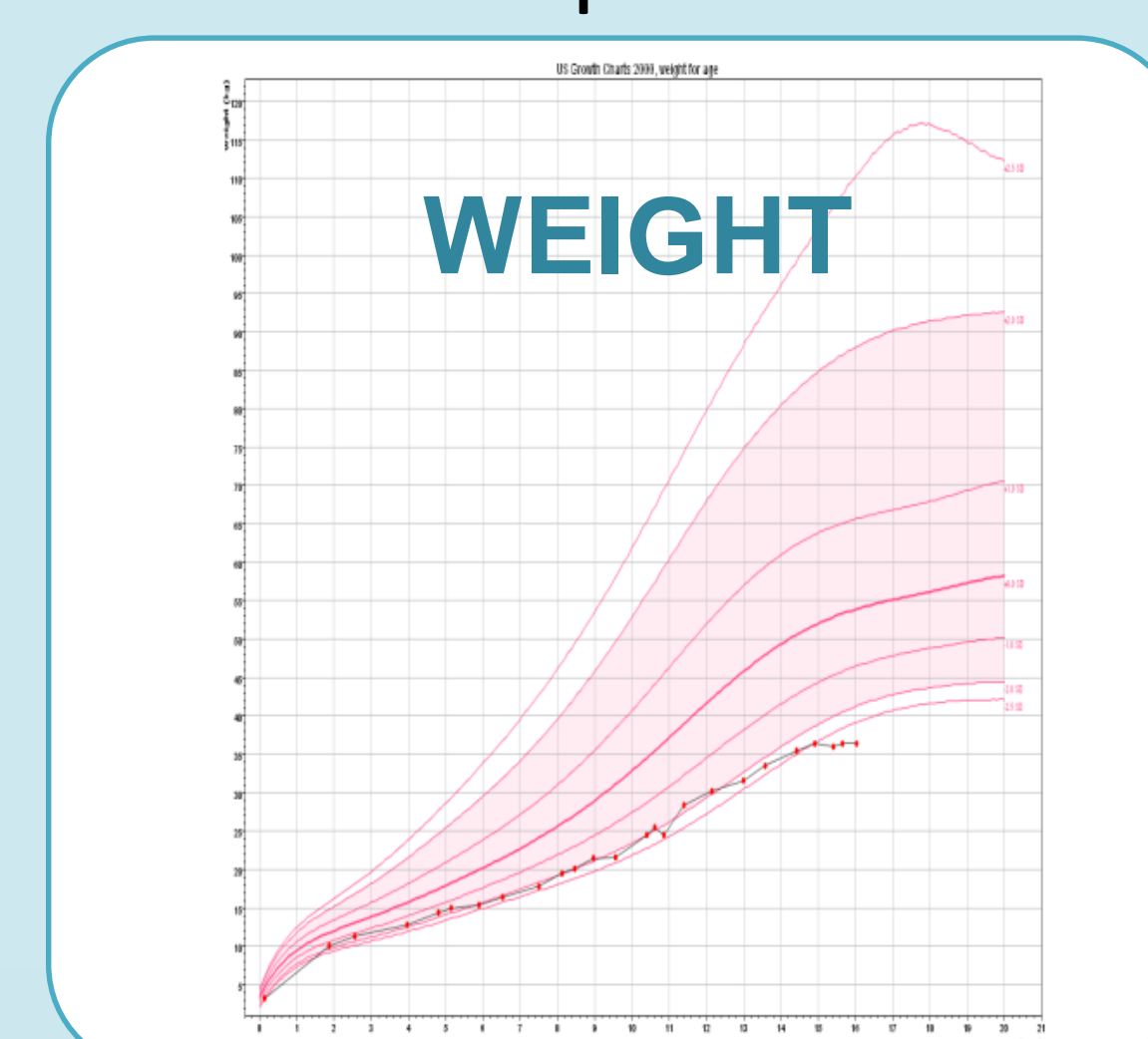


### Adrenal:

- Normal response of cortisol post standard-dose ACTH stimulation tests at diagnosis and throughout follow-up.

### Thyroid:

- Immediately after SCT, she developed hypothyroidism and was treated with thyroxin.

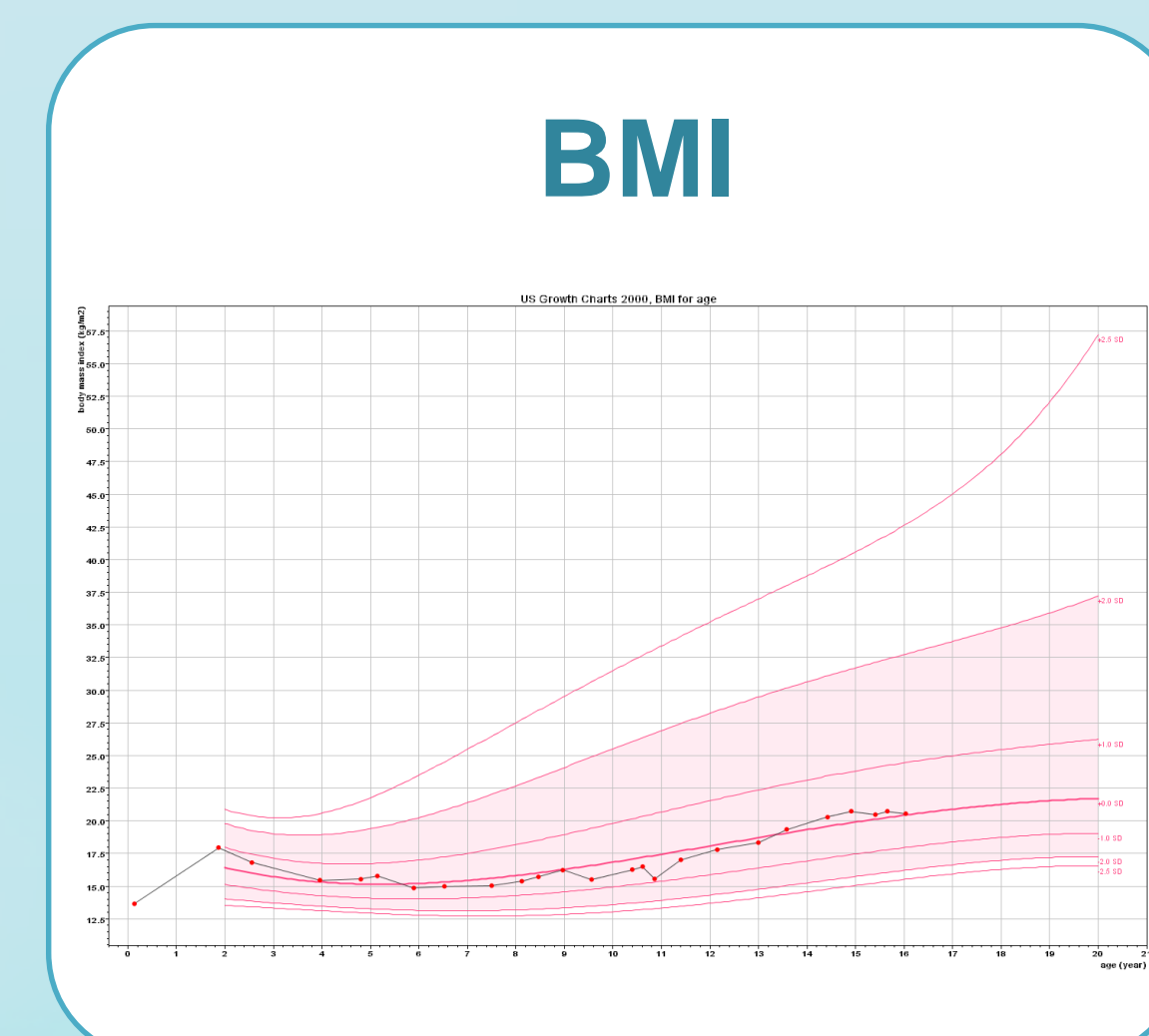


### Puberty:

- Adrenarche started at the age of 9.6yrs; Gonadarche started 8 months later.
- Puberty proceeded spontaneously despite elevated FSH and low AMH levels.
- Menarche at the age of 11.4yrs with regular menses since then.
- At the age of 15.7yrs, AMH levels were sub-normal, with a decrease in FSH levels to normal range.

### Metabolic:

- OGTT at 10.4yrs - IGT
- After completion of puberty - continued elevation of HbA1c up to 6.6% (normal 4.6-5.7%) with IFG, IGT and hyperinsulinemia.
- At the age of 12yrs, she developed hypertriglyceridemia.
- At the age of 13.5yrs, she was diagnosed with non-alcoholic fatty liver.
- Metformin treatment with dietary changes partially improved HbA1c levels (6.2%), hypertriglyceridemia and non-alcoholic fatty liver disease.



## Conclusion

- Follow-up for more than 16yrs revealed significant endocrine and metabolic consequences of a girl with WD treated with SCT at the age of 2ms.
- Continuous long-term follow-up for development of endocrine and metabolic complications is recommended in patients with WD post SCT.

