



Universiteit
Leiden
The Netherlands

Oxandrolone in growth hormone-treated girls with Turner syndrome

Menke, L.A.

Citation

Menke, L. A. (2010, December 16). *Oxandrolone in growth hormone-treated girls with Turner syndrome*. Retrieved from <https://hdl.handle.net/1887/16251>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/16251>

Note: To cite this publication please use the final published version (if applicable).

**Oxandrolone in growth hormone-treated
girls with Turner syndrome**

Leonie Alexandra Menke

The studies presented in this thesis were financially supported by grants from Pfizer BV and Eli Lilly Nederland BV.

The printing of this thesis was financially supported by Pfizer BV; Eli Lilly Nederland BV; ACE Pharmaceuticals BV, Zeewolde; Ferring BV, Hoofddorp; Novo Nordisk BV; Ipsen Farmaceutica BV; Sandoz BV; Haga Hospital; Leiden University Medical Center; and the J.E. Jurriaanse Stichting.



Mixed Sources

Product group from well-managed
forests, controlled sources and
recycled wood or fibre

Cert no. CU-COC-811465

www.fsc.org

© 1996 Forest Stewardship Council

ISBN: 978-90-9025765-5

Cover: Leonie Menke with help of Ivo de Mas and Peter van Limbeek (using drawings of the girls that took part in the study)

Lay-out: Nicole Nijhuis, Gildeprint Drukkerijen, Enschede

Print: Gildeprint Drukkerijen, Enschede

Copyright © 2010 L.A. Menke, Amsterdam

Oxandrolone in growth hormone-treated girls with Turner syndrome

Proefschrift

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van de Rector Magnificus prof.mr. P.F. van der Heijden,
volgens besluit van het College voor Promoties
te verdedigen op donderdag 16 december 2010
klokke 16.15 uur

door

Leonie Alexandra Menke
geboren te Dordrecht in 1978

Promotiecommissie

Promotor: Prof. dr. J.M. Wit

Co-promotores: Dr. T.C.J. Sas, Albert Schweitzer Ziekenhuis, Dordrecht; Sophia Kinderziekenhuis / Erasmus Medisch Centrum, Rotterdam
Dr. B.J. Otten, Universitair Medisch Centrum St Radboud, Nijmegen

Overige leden: Prof. dr. A.C.S. Hokken-Koelega, Stichting Kind en Groei; Sophia Kinderziekenhuis / Erasmus Medisch Centrum, Rotterdam
Prof. dr. J.W.A. Smit
Prof. dr. H.A. Delemarre-van de Waal

Contents

Chapter 1	Introduction	Page 7
Chapter 2	Efficacy and safety of oxandrolone in growth hormone-treated girls with Turner syndrome	Page 25
Chapter 3	The effect of oxandrolone on voice frequency in growth hormone-treated girls with Turner syndrome	Page 51
Chapter 4	The effect of oxandrolone on body proportions and body composition in growth hormone-treated girls with Turner syndrome	Page 73
Chapter 5	Effect of oxandrolone on glucose metabolism in growth hormone-treated girls with Turner syndrome	Page 93
Chapter 6	The effect of the weak androgen oxandrolone on psychological and behavioral characteristics in growth hormone-treated girls with Turner syndrome	Page 113
Chapter 7	General discussion and conclusions	Page 147
Chapter 8	Summary	Page 163
	Samenvatting	Page 169
	Dankwoord	Page 175
	Curriculum Vitae	Page 179
	List of publications	Page 181

