



Universiteit
Leiden
The Netherlands

Hemoglobinopathies in Iran : molecular spectrum, prevention and treatment.

Yavarian, M.

Citation

Yavarian, M. (2005, January 26). *Hemoglobinopathies in Iran : molecular spectrum, prevention and treatment*. Retrieved from <https://hdl.handle.net/1887/3728>

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/1887/3728>

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

Hemoglobinopathies in Iran

**Molecular spectrum,
prevention and
treatment**

Majid Yavarian

Hemoglobinopathies

in Iran

**Molecular spectrum,
prevention and
treatment**

To my wife, Rogaye
and children, Ali-Reza, Elnaz and Mohamad-Reza (Erfan)

**Hemoglobinopathies
in Iran
Molecular spectrum,
prevention and
treatment**

Proefschrift

ter verkrijging van de graad van Doctor
aan de Universiteit Leiden,
op gezag van de Rector Magnificus Dr. D. D. Breimer,
hoogleraar in de faculteit der Wiskunde en
Natuurwetenschappen en die der Geneeskunde,
volgens besluit van het College voor Promoties
te verdedigen op woensdag 26 januari 2005
te klokke 15.15 uur

door

Majid Yavarian
geboren te Ardebil (Iran)
in 1956

Promotiecommissie

Promotor: Prof. Dr. E. Bakker

Co-promotor: Dr. P.C. Giordano

Referent: Prof. Dr. L.F. Bernini

Overige leden: Prof. Dr. A. Brand
Prof. Dr. M. Breuning
Prof. Dr. M. Cappellini, Università degli studi, Milano
Prof. Dr. J.P.M. Geraedts, Universiteit Maastricht
Prof. Dr. G. J.B. van Ommen
Dr. C.L. Harteveld

ISBN 90-9018926- 2

This study was partially conducted in Iran and partially in the Hemoglobinopathies Laboratory at the department of Human and Clinical Genetics of the Leiden University Medical Center (LUMC).

Content of this thesis

Chapters	Title	Page nr.
Summary:	The aim of this thesis	1
Chapter I:	The origin of the Iranian ethnicities	3
	Modern Iran at a glance	11
Chapter II:	Hemoglobin, hemoglobin genes, gene products, Malaria and Hemoglobinopathies	13
Chapter III:	Hemoglobinopathies, the abnormal hemoglobins in general and in the Iranian population	21
Chapter IV:	Hemoglobinopathies, thalassemias in general and in the Iranian populations.	39
Chapter V:	Hemoglobinopathies and therapy	63
Chapter VI:	Prevention in Iran and the "Hormozgan experience"	79
Chapter VII:	Laboratory strategies for carrier diagnostics and prevention	89
Chapter VIII:	Publications related to the issues	105
Publication 1:	The spectrum of β -thalassemia mutations in the Iranian Province of Hormozgan.	
Publication 2:	Molecular spectrum of α -thalassemia in Iranian population of Hormozgan: Three novel point mutation defects.	
Publication 3:	The molecular basis of HbH disease in south-west Iran.	
Publication 4:	Response to Hydroxyurea treatment in Iranian transfusion-dependent β -thalassemia.	
Publication 5:	Survival analysis of transfusion dependent β -thalassemia major patients in the Iranian province of Hormozgan.	
Publication 6	Spectrum and haplotypes of the HFE hemochromatosis gene in Iran. H63D in β -thalassemia major and the first E277K homozygous.	
Publication 7:	Prevalence of G6PD deficiency in male population of Hormozgan province.	
Addendum:	Information to the public in Dutch, English and Farsi for Iran and Iranians in The Netherlands	
Samenvatting:	Het doel van dit proefschrift	
Curriculum vitae		