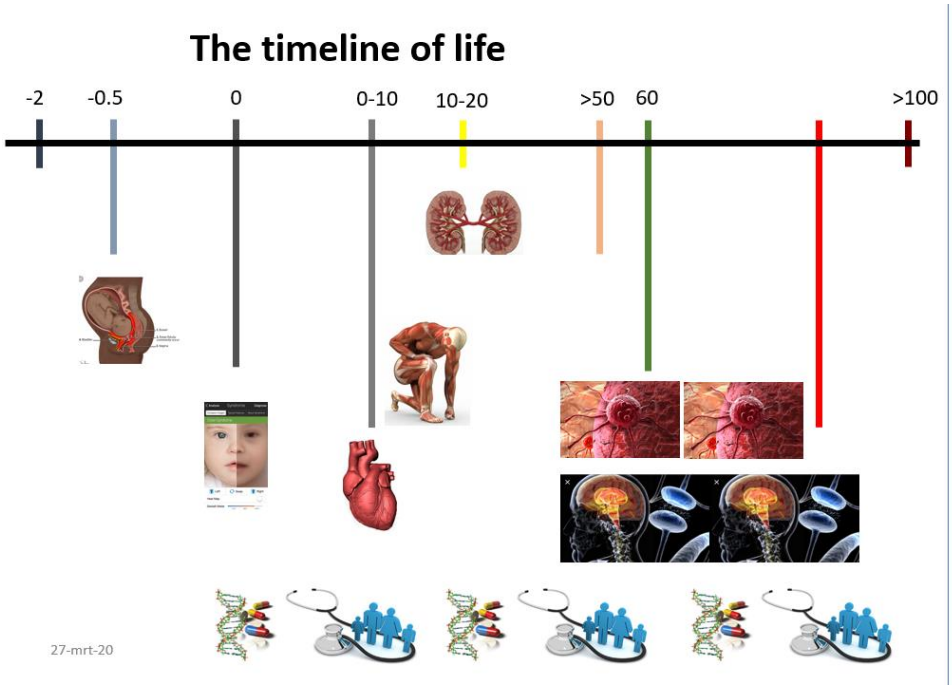
Title: Hereditary disease in the clinic

Overview

Today, we stand at the threshold of a new era in healthcare. Analysis of a complete patient's genome will play a prominent role in the consulting rooms of almost every medical specialist within the foreseeable future. Novel sequencing technologies are expected to improve and accelerate diagnosis, improve healthcare and facilitate more personalized health management. It also gives opportunities for new targeted therapies and creates more detailed insight into the mechanisms of disease at the molecular, cellular and organismal level. These new opportunities also bring new ethical implications for patients and their families.

Introduction

A substantial part of the reasons for consulting a General Practitioner is caused by a genetic disease. However, this area of expertise has been insufficiently highlighted thus far in the curriculum. Nevertheless it is essential to have background knowledge on the genetic diseases as these occur in almost all medical specialties and from conception to death.



Learning objectives

In this half minor, you will:

Learn to take anamneses and to establish a genetic diagnosis during patient demonstrations

Learn to critically evaluate literature and to use your findings to answer questions from clinical practice;

Obtain a basic understanding of a genetic test and how to translate the results into the clinic;

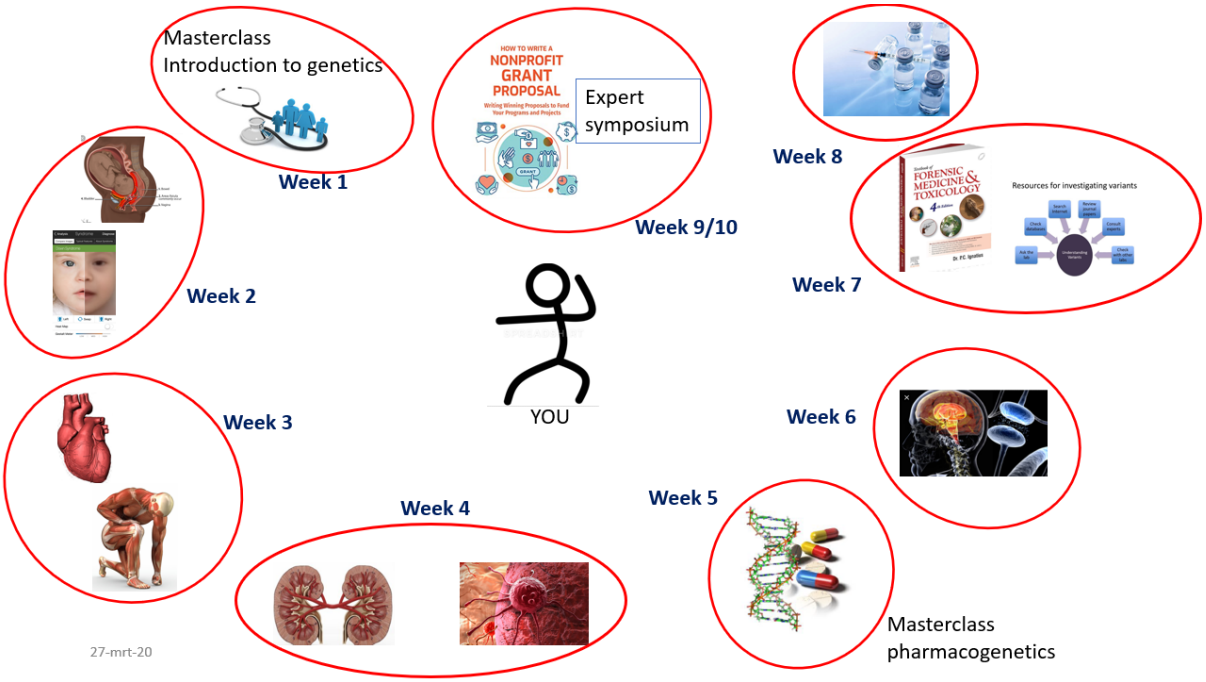
Describe and explain the impact of the Next Generation Sequencing (NGS) technologies in health care, as well as the ethical consequences;

Discuss how different clinical treatment strategies for different clinical disciplines will be affected by implementation of NGS;

Learn how genetic findings highlighted the mechanisms of important diseases and how this lead to novel opportunities for therapy;

Program

Week 1: Masterclass: Introduction to genetics including over the counter DNA diagnostics and ethics
Week 2: Preconception screening and pre-, postnatal diagnostics
Week 3: (Genetic) disease in Cardiology and Neurology (muscular)
Week 4: (Genetic) disease in Nefrology and Oncology
Week 5: Masterclass: Pharmacogenetics
Week 6: (Genetic) disease in Neurology (neurodegenerative)
Week 7: Genetics in Forensics. Variant interpretation in genetic disease.
Week 8: Therapy in genetic disease
Week 9/10: Expert symposium and Grant proposal



Teaching methods

Throughout the program, we will use a variety of teaching methods, including patient demonstrations, critical literature evaluation, (interactive) lectures, debates, self-study assignments, working groups, hands-on DNA work and presentations.

Assessment

Your grade will be based on a knowledge exams, which will be taken after the topic(s) has/have been completed in combination with a written research (grant) proposal. Participation in discussions, presentation on research articles and clinical cases are pass/fail assignments.

'This minor will provide you with expertise (genetic) knowledge which applies to many areas of healthcare and scientific research. It will be beneficial for you to a great expanse!'

Contact

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