

AGSD (UK) Annual Conference 2001

2001 Conference General Speaker

Alistair Kent, Genetic Interest Group Director on "Some Consequences of the Human Genome Project (HGP) on the Development of Treatments for Rare Disorders "

The HGP makes it possible to determine if a genetic change is the cause of many more human and animal diseases than before and thus improves the research basis for developing thousands of treatments for common and more rare single gene disorders .

Alistair structured his talk around the following questions:

1. What is GIG ? .
2. What is an Orphan Drug?

What is GIG?

The Genetic Interest Group [GIG] was formed in the 1989 by a group of voluntary organisations concerned with genetic disorders. Its Constitution was adopted at the 1st AGM on 7th April 1990. GIG aims are to:

- " Increase awareness of genetic disorders-
- " Act as a resource and advice centre for members of the public and professional workers
- " Provide a forum for discussion of issues concerning human

Since 1990 GIG has been involved in governmental consultations on stem-cell research, Genetics and Insurance, Genetic Screening, ethics and the development of Genetic Services, etc. Along with CLIMB (sic RTMDC) GIG has acted as a representative of UK patient groups to the European Commission on Orphan Drug Regulation in the development and registration of Orphan Medicinal products which established European Agency for the Evaluation of Medicinal Products [EMEA]. GIG is a founding member of EGAS - the European Alliance of Genetic Support Groups and a member of EURORDIS.

What is an Orphan Drug?

The HGP has led to an increased awareness that many of the "common" disorders have a multiple genetic basis. Thus research into single gene disorders can lead to benefits for the wider population. For example, research into treatments for reinitis pigmentosa has led to a greater awareness of similarities between this disease and some of the changes in types of Alzheimer's disease which may result in the development of treatments. To date, the HG project has indicated that only some 35,000 genes can code for over 250,000 proteins and that most genes have more than one "effect" in developing and maintaining a healthy human.

The 1983 Orphan Drugs Act in the USA, and the European Orphan Drugs Act ratified in 2000, have set in place regulatory frameworks for developing a particular drug for a rare Disorder from statement-of-need to final market. Historically there has been a private-public partnership between the pharmaceutical industry, professional researchers, clinicians and the relevant patient groups especially for the big diseases such as cancer, heart disease and stroke. Financially the development of a drug treatment for a rare disorder is not attractive for industry or the governments. [Cuba is an exception where the establishment of vaccines and genetic services is most advanced.]

The EU adopted the Orphan Drug Regulation in May 2000. Directive 65/65/EEC Art.3 states: 'No medicinal product may be placed on the market of a member state unless a market authorization has been issued EITHER by the competent authorities of EMEA (which holds the centralized procedure) OR by the Competent Authorities of Member States (CAMS) [individual National and mutual recognition procedures.]'

To submit an application for an Orphan drug and ultimately marketing authorisation status in the EU an "applicant " or sponsor (usually the pharmaceutical company or a "named " individual) must show that the orphan criteria are met namely:

- The orphan disease is life threatening or debilitating
- The proposed drug has medical plausibility
- The patient base must be less than 5 in 10,000
- OR is unlikely to generate sufficient return on investment.
- No other satisfactory treatment already exists
- OR the proposed product will be significantly better than any existing treatment.
- This is done by an "applicant" or sponsor which is usually a "named" individual.

The procedure for Granting Orphan Drug status and Market Authorisation is in roughly two stages.

1. EMEA appoints a "qualified professional" - i.e. an acknowledged expert in genetic disorders to advise on the quality, safety and efficacy of the product.

2. The proposed product is submitted to the scrutiny of the Committee for Orphan Medicinal Products (COMP) and to the Committee for Proprietary Medicine (CPMP).

TO SIMPLIFY - COMP advises on granting Orphan Drug status and the CPMP provides the scientific scrutiny and ultimately advises the European Commission that Marketing Authorisation be given to the product. The final decisions are always made by the European Commission itself.

The EU has set up this procedure to encourage the development of treatments which would not ordinarily be attractive to the Drug companies. Once EMEA has granted "Orphan Drug Designation " the companies have the following incentive criteria as laid down in Regulation (EC) No. 141/2000.- to go ahead and develop the product.

- Marketing exclusivity for 10 years after authorisation has been granted
- Protocol assistance
- Access to the centralised procedure for market authorisation
- Fee exemptions and/or reductions
- EU funded research.

Designation of orphan drug status is not an endorsement for the use of the product until it achieves market authorisation.

In all cases an "Orphan " medicinal product must be shown to have

- Pharmaceutical Quality
- Safety - It is not harmful in the normal conditions of use
- It has therapeutic efficacy i.e. IT WORKS!

WEBSITES WHICH HAVE MORE DETAIL ON ORPHAN DRUGS LEGISLATION

- o LINKS page of <http://www.gig.org.uk>
- o European Community register of Orphan Medicinal products can be found on <http://pharmacos.eudra.org/register/orphreg.html>
- o The European Health Forum Garstein info@ehfg.or
- o CLIMB <http://www.climb.org.uk>
- o EURORDIS <http://www.eurordis.org>