



European Porphyria Network: providing  
better healthcare for patients and their  
families

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**APRIL 1st 2007 – MAY 31st 2010**

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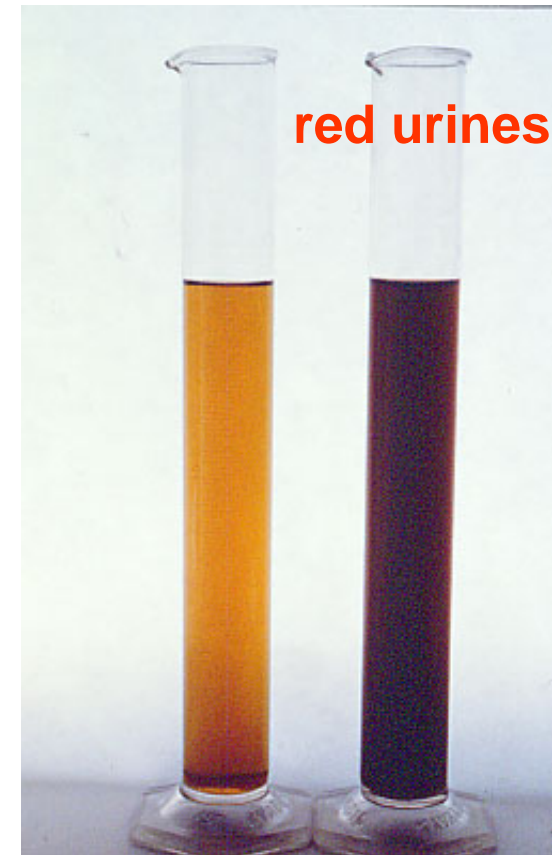
*APHP - JCh Deybach - CFP*

# Porphyrias

*(from greek « porphyros » : red pigment)*

**“Obscure diseases with confusing names considered only when the need for a diagnosis is desperate”**

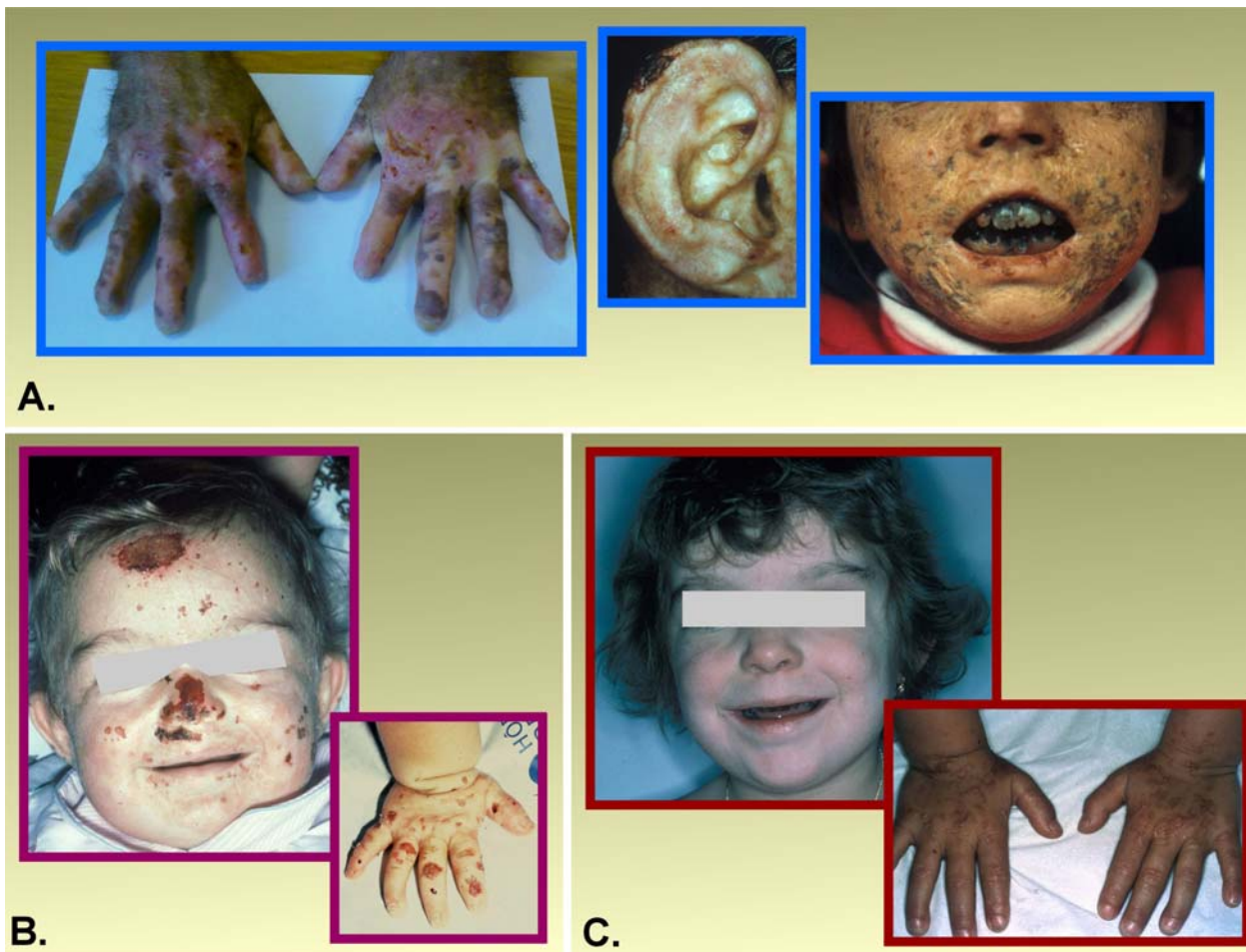
- ALAD Deficiency Porphyria
- Acute Intermittent Porphyria
- Hereditary Coproporphyria
- Variegate Porphyria
- Porphyria Cutanea Tarda
- Congenital Erythropoietic Porphyria
- Erythropoietic Protoporphyria
- X Linked Dominant Protoporphyria



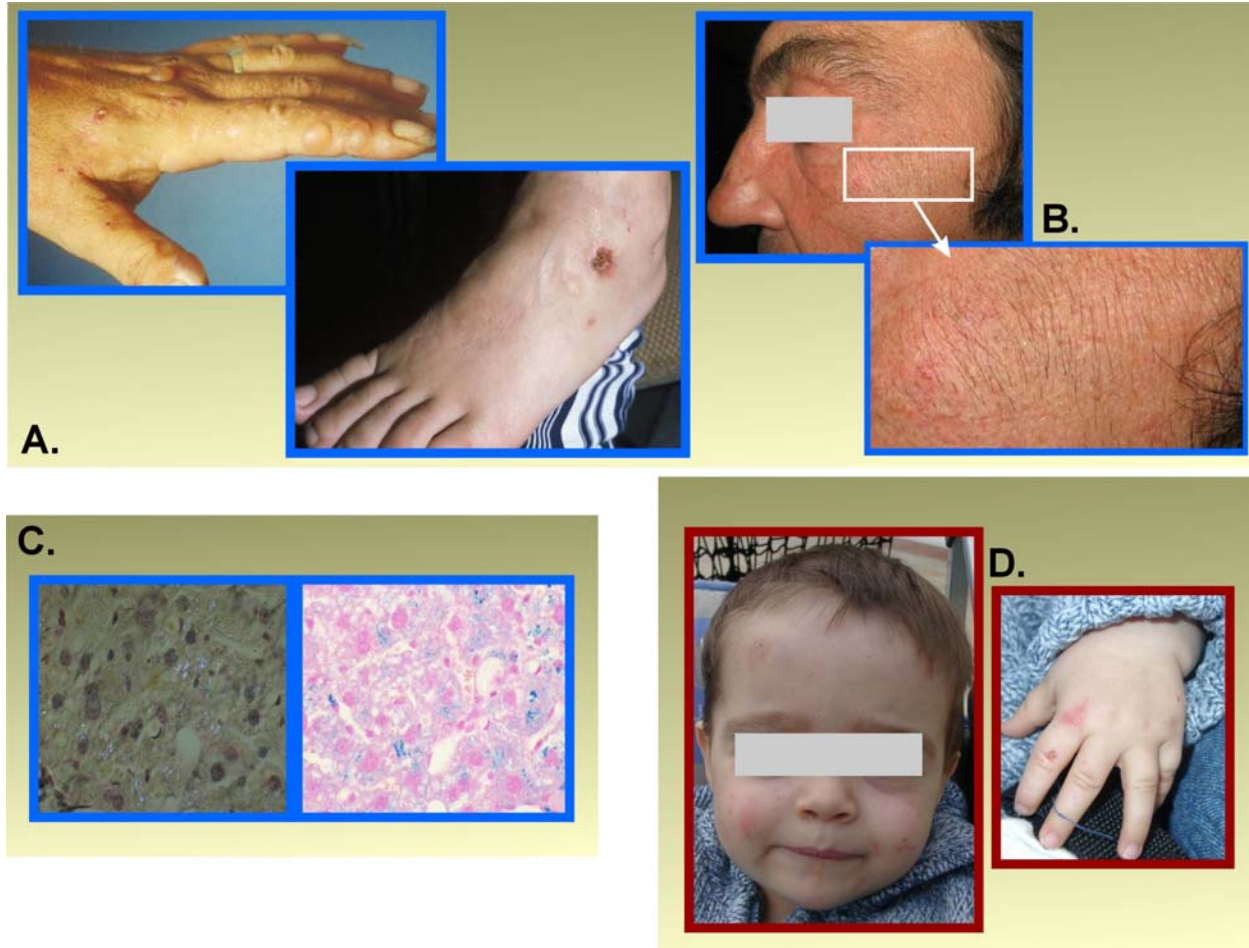
# Porphyrias

- 8 rare genetic diseases
- Due to a partial deficiency in one of the enzymes of the heme biosynthetic pathway
- Each related to specific mutations in the respective encoding genes
- Lead to abnormal tissue accumulation and excretion of porphyrins and their precursors
- Symptoms : Intermittent **acute neuro-visceral attacks** and/or specific **photo-induced skin lesions**

# CEP a rare porphyria in children



# PCT, most frequent porphyria in adults



# Porphyrias



## *puzzling features*

- Mostly dominant in inheritance
- Incomplete penetrance, incidence/prevalence not known
- Acute symptoms precipitated by endo / exogenous factors : hormones, infections, stress, **drugs**
- **why Porphyria patients become symptomatic ?**  
*(pharmacogenetic diseases), etc.*
- Pathophysiology largely unknown :
  - Large allelic heterogeneity
  - No genotype-phenotype relationship
  - No animal model
- Despite existing supportive treatments...

# A European Porphyria Network ?



- **Most healthcare professionals have no experience diagnosing and treating porphyria patients**
- **Existing Porphyria Centers of Expertise in some EU countries**
  - **Disparity in the content and accessibility of information**
  - **Disparity in diagnostic and treatment strategies**
  - **Absence of quality assessment scheme between labs**
  - **Conflicting data on safety of drugs in acute porphyrias**
- **Epidemiology unknown : incidence, prevalence, types of complications...**
- **Limited number of patients = limited progress in knowledge, in research and therapeutic resources... in each EU Country**

# Epnet

- Successful application to DG Sanco/EAHC in 2006
- « Official » European Reference Network (ERN) pilot project
- **Centre Français des Porphyries** as Coordinating Center of EPNET

# Centre Français des Porphyrries (CFP)

*National Center of Expertise for Porphyrrias since 2004 (1st Rare Disease Plan)*

*Hôpital Louis Mourier, APHP, Paris, France  
Inserm U773 Université Denis Diderot Paris 7*



## **Medical staff : 4.5**

- *Jean-Charles Deybach, Head of Dept*
- *Hervé Puy, vice-head*

## **Laboratory Technicians : 4**

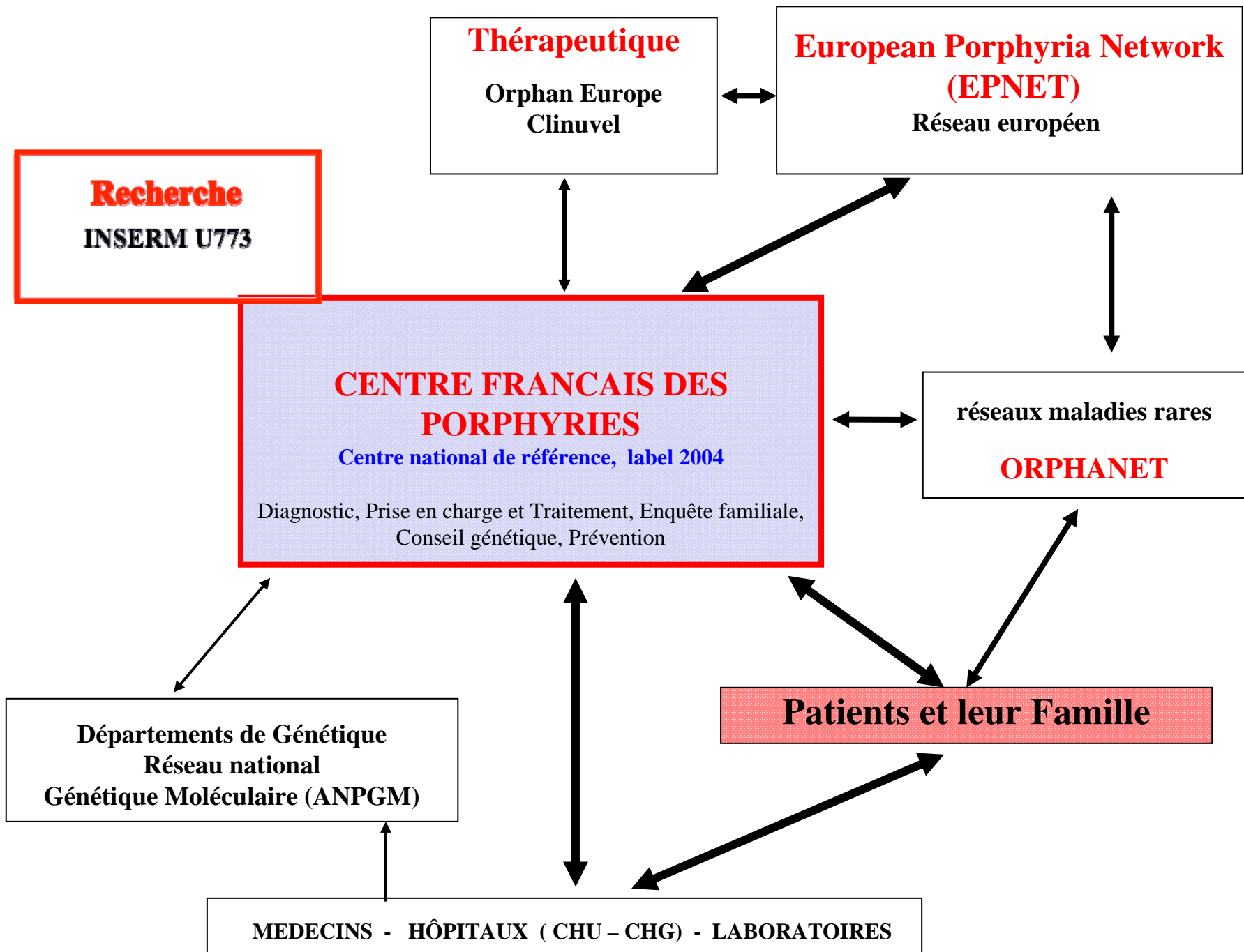
## **Secretaries : 2**

## **Services :**

- Laboratory Service : *24h*
- Telephone/email consultations : *24h*
- Safety of drugs : *24h*
- Outpatient consultations: *everyday*
- Genetic counselling
- Dissemination and Research (Inserm U773)
- Website : [www.porphyrie.net](http://www.porphyrie.net)

## **Associated Medical Departments**

- *Emergency Department +++*
  - *Gastro-Enterology +++*
  - *Internal Medicine*
  - *Intensive Care Unit*
  
  - *+ other medical facilities : Surgery, Psychiatry, Maternity...*
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- ➔ **Hospitalisation and Management of Symptomatic Porphyria Patients**
  - ➔ **Day Hospitalisation of recurrent and chronic porphyria patients**
  - ➔ **Clinical studies for all Porphyrias**



# Partners *(National Centers of Expertise)*



15 Associate partners	<i>France, Czech Republic, Italy, UK, Poland, The Netherlands, Finland Norway, Sweden, Spain, Germany</i>
6 Collaborating partners	<i>Spain, Germany, Hungary, Belgium, Ireland, Switzerland</i>

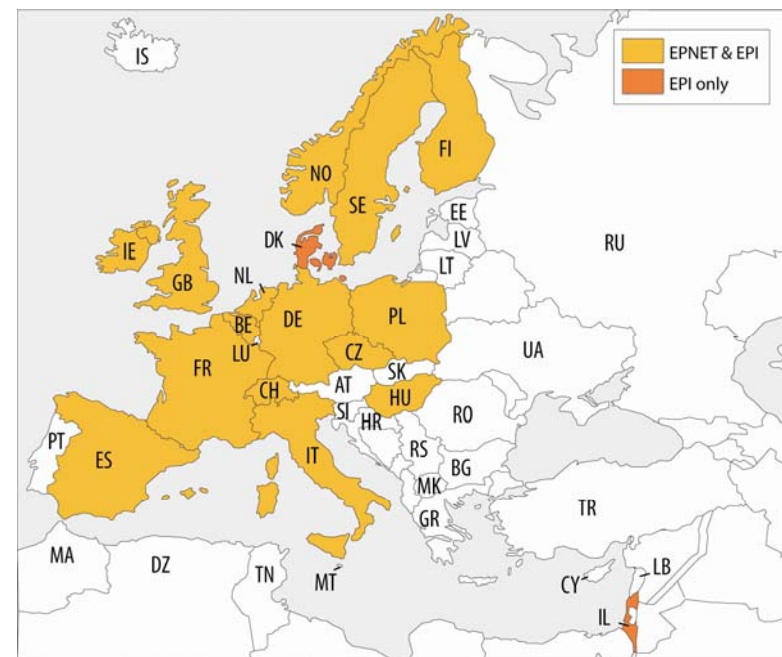
**21 members in 16 countries**

**EPNET 1 (2007-2010)**

**Key achievements :**

**Network of CE expanded to**

**32 members in 21 countries**





# Main objectives (EPNET 2007-2010) <sup>Ep</sup>net

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1. Draw up **consensus-agreed information** about all porphyrias, translate into patients' languages
2. Standardize the evidence about drug use in the porphyrias
3. Monitor the performance of specialist diagnostic services by external QA scheme
4. **Porphyria registry** to collect epidemiological and clinical data for public health national and EU authorities

# 1. Patient *consensus-agreed* Information



- Review and update information on all porphyrias
- Patient information leaflets for all porphyrias
- Translate into 12 European languages
- Improved detailed consensus agreed information for health care professionals
- Publish on website : [www.porphyrria-europe.org](http://www.porphyrria-europe.org)

# Patient Information : [www.porphyrria-europe.org](http://www.porphyrria-europe.org)

**European Porphyria Initiative** **Epnet** **European Porphyria Network**

**For patients and families**

- Introduction to porphyria
- Acute porphyrias
- Congenital Erythropoietic Porphyria (CEP)
- Erythropoietic Protoporphyrria (EPP)
- Porphyria Cutanea Tarda (PCT)

**For healthcare professionals**

- The Porphyrias
- Laboratory diagnosis
- Investigating the family
- Treatment
- Pain Management
- Congress Abstracts
- EPNET experts

**Drugs and acute porphyrias**

- Background information
- How to use the information?
- Common prescribing problems
- Selecting a drug

**Important information**

Both of the drugs that are available to treat swine flu, oseltamivir and zanamivir, are considered safe in patients with acute porphyria (NAPOS). Influenza vaccination is considered safe in patients with acute porphyria, including the specific vaccines developed for swine flu. Influenza infection, including swine flu, can be a very serious illness and could therefore precipitate an acute attack. Our advice is that patients who are routinely offered either seasonal and or swine flu vaccination as part of their national vaccination programme should accept.

**About EPI/EPNET**

- What is EPI?
- What is EPNET?

**News**

- Porphyria international conference, Stockholm June 14-18 2009
- Porphyria international conference, Cardiff 2011

**Newsletter**

Enter your e-mail :

Epnet

## 4. Porphyria Registry

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- Incidence data for 5 inherited porphyrias
  - AIP, VP, HCP *Acute hepatic*
  - CEP and EPP *Cutaneous erythropoietic*
  
- Prevalence/incidence of rare complications in acute porphyrias
  
- Clinical details of acute porphyrias

# Incidence of inherited porphyrias

(new symptomatic cases/year/million)



Country	Population (millions)	AIP	HCP	VP	EPP
France	64.71	0.11	0.01	0.12	0.06
Ireland	4.45	0	0	0.16	0.08
N. Italy	27	0.11	0.03	0.05	0.06
Italy	60.4	-	-	0.06	0.07
Netherlands	16.58	0.18	0.02	0.06	0.18
Norway	4.85	0.14	0	0.07	0.36
Poland	38.16	0.16	0	0.01	0.02
Spain	46.09	0.12	0.04	0.04	0.03
Sweden	9.35	0.51	0	0.11	0.18
Switzerland	7.76	0.35	0.04	0.26	0.35
UK	62.04	0.16	0.04	0.08	0.33
<b>All countries</b>	<b>314.39</b>	<b>0.13*</b>	<b>0.02</b>	<b>0.08</b>	<b>0.12</b>

# Complications (Acute Porphyrias)



- Recurrent acute attacks
  - 67 patients (64 AIP; 3 VP)
  - AIP: 53 females; median age 36 (23-68) years  
11 males; median age 43.5 (17-52) years
- Liver transplant for recurrent AIP : 13 patients
- Estimated percentages of new symptomatic patients who will develop recurrent acute attacks:
  - Females: 8.2 %
  - Males: 5.6 %

# Primary liver cancer (HCC) in Acute Intermittent Porphyria



- Prospective survey over 3 year period
- 12 new cases: 9 females, 3 males; age: 60 – 81 years

Country	New cases Per 3 years	Population (million)	Incidence AIP	Incidence HCC in AIP
<b>Sweden</b>	9* (7 AIP, 2 VP)	9.35	0.51 (x 4)	<b>0.25</b> <i>(x 63)</i>
CH, F, NL,UK	3 (2 AIP, 1 VP)	151.09	0.13	<b>0.004</b>

# Publications

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1. Peer reviewed publication on external quality assessment
2. Peer reviewed publication on porphyria related laboratory and clinical activity presenting nominative data
3. Peer reviewed publication presenting an evidence based diagnostic strategy for the porphyrias
4. Peer reviewed publication describing the methods for collecting clinical data and resulting impact on drug safety assessments
5. Paper on the incidence and long-term complications



# Conclusions

- ❑ EPNET report available
- ❑ Collaboration and cooperation key to improvements
- ❑ Avoid duplication of effort
- ❑ Interaction with patient groups
- ❑ **Sustainability ?**

**Providing better healthcare  
for patients and their families**





# EPNET Continuation 2011-13?

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- Two years **operating grants : 2011/2012**
- Build on achievements
- OBJECTIVES :
  - Extension of the network to additional EU countries
  - Improvement of diagnostic and analytical quality of Centers of Expertise through EQA
  - Registry extension: Prevalence data and additional clinical details on all porphyrias
  - Drug database: simplified reporting procedure
  - Patients groups : enhance collaboration with existing and extension to additional EU countries



# Thank you

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- DGSanco: Antoni Montserrat
- EAHC: Georgios Margetidis
- EUCERD organizers