UBIOPRED study:
Hands-on experience of Polish participant

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Unbiased Biomarkers for the Prediction of Respiratory Disease Outcomes

The project addresses the current inability of pre-clinical studies to predict clinical efficacy, which is a major bottleneck in drug development for severe asthma.

Examples:

Chromones (chromolyn sodium, nedocromil) – introduced in early 1970s for allergic asthma, now alternate initial controller drug
Mild efficacy, reduces risk of hospitalization by 20% in children while steroids reduce by 50%   perhaps 1 in 10 asthmatics is responder
Antileukotrienes (montelukast, pranlukast) – introduced in late 1980s for moderate-to-severe asthma, moderate efficacy. Risk for exacerbation is 60% greater if used alone than with steroids   perhaps 1 in 4 asthmatics is responder

Aims

- Identify better tools and markers to develop new therapies and diagnostics for severe asthma
- Introduce tools for predicting the effectiveness of future treatments
- Assist in producing new drugs
- Develop a personalised approach to therapy
- Include patients as partners in research

How this will be achieved

- Clinical data from a large cohort
- Omics technology (genomics, transcriptomics, proteomics, lipidomics)
- Animal and laboratory models
- Human challenge models
- Systems biology

Partcipants & funding

The consortium encompasses the representatives of all stakeholder groups by involving partners from

academia (20), biopharma industry (EFPIA) (9), patients/care organisations (6), SMEs (3) and

Multinational industry (1)

- **Duration:** 60 months, started 1 Oct 2009
- **Total costs:** 22 846 864 €
- **IMI contribution:** 8 977 151 €
- **EFPIA contribution:** 11 007 989 €

Coordinator: Academic Medical Centre, University of Amsterdam, Amsterdam, The Netherlands
EFPIA coordinator: Novartis Pharma AG

University of Southampton, Imperial College London, University of Manchester, Nottingham University Hospital (UK)

University of Catania, University of Rome Tor Vergata, Università Cattolica del Sacro Cuore (I)

Ctr. Nat. Recherche Scientifique , Université de la Méditerranee (F)

University Hospital, Umea, Karolinska Institutet, Haukeland University Hospital (S)

University Hospital, Copenhagen, Hvidore Hospital (DK)

Jagiellonian Univ. Medi.College (PL), University Hospital, Inselspital (CH)

Semmelweis University (HU), Fraunhofer Institute (D), Ghent University (B)

Netherlands Asthma Foundation, European Lung Foundation , Asthma UK, European. Fed. Of Allergy and Airways Diseases Patients' Associations, Lega Italiano Anti Fumo, International

Primary Care Respiratory Group, Philips Research Laboratories, Synairgen Research Ltd, Aerocrine AB, BioSci Consulting, Almirall, AstraZeneca, Boehringer Ingelheim, Chiesi, GlaxoSmithKline, Roche, UCB

25th September, 2012, Gdańsk, Poland

Our experience in the field

Sachs-Olsen C, Sanak M, Lang AM, Gielicz A, Mowinckel P, Lodrup Carlsen KC, Carlsen K-H, Szczeklik A. Eoxins: a new inflammatory pathway in childhood asthma. J Allergy Clin Immunol 2010: 126: 859-867.

Sanak M, Gielicz A, Nagraba K, Kaszuba M, Kumik J, Szczeklik J. Targeted eicosanoids lipidomics of exhaled breath condensate in healthy subjects. Journal of Chromatography B. 2010; 878: 1796-1800.

Sanak M, Gielicz A, Bochenek G, Kaszuba M, Niżankowska-Mogilnicka E, Szczeklik A. Targeted eicosanoid lipidomics of exhaled breath condensate provide a distinct pattern in the aspirin-intolerant asthma phenotype. J Allergy Clin Immunol 2011; 127: 1141-1147.
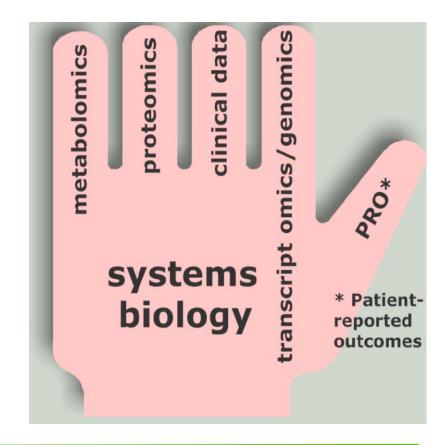
Our aim

Lipidomics of induced sputum – samples of lower airways excretions

material: induced sputum collected from well defined asthmatic patients and controls (n=725)

methods: high performance liquid chromatography – tandem mass spectrometry

measured analytes: 10 key lipid mediators and their metabolites reflecting cyclooxygenases and lipoxygenases inflammatory pathways

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Patient/study subject recruitment

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RECRUITMENT (WP3) Preliminary results

Adult	Planned patients per protocol	Pts in CIA	Extra pts proposed in Barcelona	Total planned pts	Missing	Actual total	Increase Actual	Total outstanding (planned - actual)	Bronch. Visits Total - Actual	Bronch. Visits Total - increase actual	Exacerb. Visits Total - Actual	Exacerb. Visits Total - Increase actual	CT scan Total - Actual	CT scan Total - Increase actual	CT scan Total - expected (CIA)	Amend. approval status
Cohort A	400	378	11	389	11	245	6	155	49	2	9	0	75	2		
Cohort B	125	124	-1	123	2	27	0	98	3	0	0	0	10	0		7/15
Cohort C	100	100	12	112	-12	73	2	27	14	0	0	0	8	1		5/15
Cohort D	100	100	5	105	-5	98	5	2	33	1	0	0	11	3		3/15
TOTAL	725			729		443	13	282	99	3	9	0	104	6	236	

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Preliminary results of the Polish Team

Poland (07)									EC meeting 28 Sept	Recruited 3 pts more than target. Local CRA supported site to prepare docs for the amendment. Submission will be performed on week 38. Recruitment: Investigators are willing to recruit more patients but because of holidays it will be possible at the end of September or even in October. Difficult to specify how many patients can be included more.
Cohort A	11	3	14	17	17	0	-3			
Cohort B	4	-3	1	1	1	0	0			
Cohort C	4	1	5	5	5	0	0			
Cohort D	5	0	5	5	5	0	0			
			25	28	28	0	-3			

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Preliminary results of the Polish Team (WP7) – mediators/ hierarchical clustering

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Pros and Cons

Pros:

+ involvement in new state-of-the-art research

+ funding

+ local capacity/team building

+ prestige / „good CV line"

Cons:

- Many challenges – withdrawal of partner from consortium

- Unknown research framework

- Partner cooperation (formal and scientific)

- Recruitment of subjects (loss of data / enrolled subjects)

- Co-financing

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Thank you

Questions?
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