

	Group / Unit name	ASTHMA							
	IP / Responsible	Dr. Vicente PLAZA							
	Staff	Physicians: Astrid Crespo, Ana Muñoz, David Ramos, Lorena Soto, Anna Torredemer and Alfons Torrego. Nurses: Alicia Belda, Teresa Bigorra, Jordi Giner and, Montserrat Torrejón. Technicians: Eder Mateus and Lic Ana Plana.							
	Overview	The research activities of the group can be distributed in four main areas: 1. Role of the immune response in the pathogenesis of the different inflammatory phenotypes of asthma. Particularly TLRs, mucines and IgE 2. Characterization and optimization of clinical diagnostic techniques and therapeutic resources in asthma and rhinitis, with special emphasis on severe asthma, uncontrolled asthma and life-threatening asthma. 3. Diagnostic technological innovation (measurement of air temperature and exhaled volatile organic bodies recognized by the "electronic nose") and therapeutic (bronchial TERMOPLAST). 4. Evidence-based medicine, studies by systematic reviews and meta-coordination-participation in clinical practice.							
Goals	According to the four above areas, the specific objectives are: 1. Identify and describe new phenoendotypes of severe asthma. 2. Optimizing diagnostic and therapeutic resources available today, especially in the uncontrolled severe asthma. 3. Develop new tools that provide more sensitive and specific diagnosis of asthma (and their phenotypes) and increase treatment options in specific patient groups. 4. Improving the quality of care of health professionals in asthma.								
Research activity	Fields of interest	Asthma; severe asthma; asthma phenotypes; rhinitis and asthma; FENO; TLR; inhaler devices; therapeutic adherence							
	Research subject	Epidemiology	Clinical	X	Pre-clinical	Basic	Translational	X	
	10 Main Publications (last 5 years)	1. Quirce S, Barcina C, Plaza V, Calvo E, Muñoz M, Ampudia R, Capel M. A comparison of budesonide/formoterol maintenance and reliever therapy versus conventional best practice in asthma management in Spain. <i>J Asthma</i> 2011;48(8):839-47. PMID: 21942354. 2. Plaza V, Sanchis J, Roura P, Molina J, Calle M, Quirce S, Viejo JL, Caballero F and Murio C. Physician's Knowledge of Inhaler Devices and Inhalation Techniques Remain Poor in Spain. <i>J Aerosol Med Pulm Drug Deliver</i> 2012;25:16-22. PMID: 22047451. 3. Vidal Sílvia, Bellido-Casado Jesús, Granel Carme, Crespo Astrid, Plaza Vicente, Juárez Cándido. Flow cytometry analysis of leukocytes in induced sputum from asthmatic patients. <i>Immunobiology</i> 2012;217(7):692-7. PMID: 22204819. 4. Plaza Vicente, Bellido-Casado Jesús, Díaz Concepción, Pérez de Llano Luís, Sanchis Joaquín, Villasante Carlos y López Viña							

	<p>Antolín. Implicación de los servicios de neumología españoles en la asistencia, docencia e investigación en Asma. Resultados de la encuesta ATENEA. <i>Arch Bronconeumol</i> 2012; 48(4):114-9. PMID: 22217394.</p> <p>5. Olaguibel J, Quirce S, Juliá de Páramo B, Fortuna AM, Molina Paris J, Plaza V, on behalf of the Magic Study Group. Measurement of asthma control according to 2006 Global INitiative for Asthma guidelines: MAGIC study. <i>Respiratory Research</i> 2012, 13:50 doi:10.1186/1465-9921-13-50.</p> <p>6. Acuña-Izcaray, Agustin; Sánchez-Angarita, Efraín; Plaza, Vicente; Rodrigo, Gustavo; Montes de Oca, Maria; Gich, Ignasi; Bonfill, Xavier; Alonso-Coello, Pablo. Quality assessment of asthma clinical practice guidelines: a systematic appraisal. <i>Chest</i> 2013;Aug;144(2):390-7. PMID: 23450305.</p> <p>7. Urrutia I, Plaza V, Pascual S, Cisneros C, Entrenas LM, Luengo MT and Caballero F. Asthma control and concordance of opinions between patients and pulmonologists. <i>J Asthma</i> 2013 Aug 6. [Epub ahead of print] (in press). PMID: 23808796.</p> <p>8. Plaza V, Ramos D, Muñoz AM, Fortuna AM, Crespo A, Murio C y Palomino R. Increased efficacy to establish the current uncontrolled asthma level by combining the exhaled nitric oxide (FE_{no}) and the asthma control questionnaire (ACQ-7). <i>PLoS ONE</i> 2013;8(10):e77085. doi:10.1371/journal.pone.0077085.</p> <p>9. Alfonso Torrego, Ivan Solà, Ana Maria Munoz, Marta Roqué i Figuls, Juan Jose Yepes-Nuñez, Pablo Alonso-Coello, Vicente Plaza. Bronchial thermoplasty for moderate or severe persistent asthma in adults. <i>Cochrane Database of Systematic Reviews</i> 2014, Issue 2. Art. No.: CD009910. DOI: 10.1002/14651858.CD009910.pub2.</p> <p>10. de Miguel-Díez J, Jiménez-García R, Hernández-Barrera V, López de Andrés A, Villa-Asensi JR, Plaza V, Carrasco-Garrido P. National trends in hospital admissions for asthma exacerbations among pediatric and young adult population in Spain (2002-2010). <i>Respir Med</i>. 2014; 108(7):983-91. doi: 10.1016/j.rmed.2014.04.008. Epub 2014 Apr 23. PMID: 24795277.</p>
Main research Projects (last 5 years)	<ol style="list-style-type: none"> 1. Study of sudden onset asthma (EASI-II). Inflammatory mechanisms and causes of life-threatening asthma. TV3 Marathon Foundation. 2. Severe asthma: genetic and molecular aspects. Red Respira ISCiii y Grupo Asociado al Grupo de Asma del CIBERES. 3. Expression of Toll-like receptors 2 and 4 and mucins in asthmatic patients. Relation to the inflammatory phenotype, severity and level of asthma control. GRECO (Research Group of chronic respiratory diseases) of IIB-Sant Pau. 4. Evaluation and new perspectives in detection and use of nasal nitric oxide and the electronic nose. GRECO IIB-Sant Pau. 5. Role of the exhaled air temperature (EAT) in bronchial asthma. GRECO IIB-Sant Pau. 6. Effectiveness of an educational program of minimal intervention in the asthma control (Prometeo study). PII (Integrated Research Program) Asthma of SEPAR. 7. Asthma and OSA. Improves the asthma control in uncontrolled asthma patients with OSA after CPAP treatment? PII (Integrated Research Program) Asthma of SEPAR.

		<p>8. Control of asthma and fibromyalgia. INASMA group.</p> <p>9. Evaluation of the efficacy (clinical and pathological) and safety of asthma treatment with bronchial Thermoplasty. GRECO IIB-Sant Pau and Colaboration Cochrane international group.</p> <p>10. Local allergy in the pathogenesis of asthma. Analysis of IgE-mediated local asthma in sputum.</p>
	Stable International cooperations	<ul style="list-style-type: none"> - Cochrane Airways Group. - GINA (Global INitiative for Asthma) Assembly. - Departamento de Asma de ALAT. - Dr. G. Rodrigo (Uruguay) research methodology group.

Capacities & Resources	Expertise	Special diagnostic tools for asthma and rhinitis. Clinical management of severe asthma. Collection and processing of induced sputum. Bronchoscopy to obtain bronchial biopsies. Lung function measurements. Biological drugs administration. Thermoplasty.
	Technical skills	<ul style="list-style-type: none"> – Clinical and functional questionnaires of asthma control, nasal and bronchial FENO, induced sputum, EAT, electronic nose, brochoalveolar lavage and bronchial biopsy, allergic nasal and eye provocation, bronchial challenge tests. – Molecular biological techniques: Western blot; immunohistochemistry; Enzymatic assays; ELISA; optical microscopy; inflammatory cell counts in induced sputum; flow cytometry.
	Clinical guidelines & Statements of Scientific Societies	<ul style="list-style-type: none"> – Guía Española para el Manejo del Asma (GEMA). 2003, 2009 and 2015. – Global INitiative for Asthma (GINA). – <u>América Latina y España: Recomendaciones para la prevención y el Tratamiento de la exacerbación Asmática (ALERTA):</u> Coordinador edicions 2008 i 2010.