Report on the Development Pathways for "Advanced Therapy Medicinal Products" Workshop

On 15 December 2014, a regulatory workshop titled **"Development Pathways for Advanced Therapy Medicinal Products",** took place at the EMA's offices in London. The meeting, organised by European Biopharmaceutical Enterprises (EBE[1]) in collaboration with the European Medicines Agency (EMA[2]) and the Italian Embassy in London, was co-chaired by Paula Salmikangas, Chair of the Committee of Advanced Therapies (CAT) and Eduardo Bravo, Vice President of EBE. The meeting was the 3rd in a series of annual workshops, with more than 130 participants from a broad range of public and private stakeholders in attendance.

The meeting was opened by Prof. Guido Rasi from the EMA and his Excellency, Pasquale Terracciano, Italian Ambassador in London. The multi-stakeholder workshop provided a platform to discuss scientific advances in cell and gene therapies and their potential impact on public health and considerations to ease access to patients to innovative Advanced Therapies Medicinal Products (ATMPs). Speakers and panelists provided different perspectives on the future approaches to advanced therapies and actively contributed to the interactive dialogue.

ATMPs offer groundbreaking opportunities for the treatment of diseases, with cell materials, including stem cells, gene therapy and tissue engineering. They offer potentially curative new treatments for injuries, burns, the regeneration of damaged organs, and diseases such as Alzheimer's and cancer amongst others.

ATMPs are known to be complex medicinal products due to their manufacturing process, their profile (e.g. autologous, allogeneic or combined with medical devices, transgenic or genetically modified cells, use of different type of vectors), their mode of administration (e.g. through catheters, surgery), their safety profile (insertional mutagenesis of gene therapy medicinal products, biodistribution/potential ectopic tissue formation of cell-based medicinal products), the nature of targeted diseases (monogenetic *vs.* multifactorial) and their mode of action (e.g. treatment of disease or tissue repair/regeneration).

Paula Salmikangas, CAT Chair, summarised the Committee's achievements so far in terms of standards, harmonisation and regulatory outcomes. It was acknowledged that four ATMPs have been centrally authorised by the Agency since the ATMP Regulation came into force in 2009, with 5 evaluations currently ongoing and 4 applications for marketing authorisation withdrawn. On the development side, the CAT has witnessed major growth in the sector, with ATMP classifications (117),

[1] European Biopharmaceutical Enterprises, EBE, is the European Trade Association representing the biopharmaceutical companies of all sizes. EBE is a specialised group of EFPIA, European Federation of Pharmaceutical Industries and Associations, and acts as Europe's expert voice for emerging bioscience & technology and leading platform for health innovation ecosystems. EBE brings together 52 European biopharmaceutical companies and works together with multiple key stakeholders. More: www.ebe-biopharma.eu. Twitter: EBE_EU

[2] More information on the work of the European Medicines Agency can be found on the EMA website: www.ema.europa.eu
More information on Advanced Therapy Medicinal Products can be found on the EMA website:
http://www.ema.europa.eu/ema/index.jsp?curl=pages/regulation/general/general_content_000294.jsp

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ATMP Scientific Advice (200) and advice on Paediatric Investigation Plans (PIP) for ATMPs (40) on the rise. It was highlighted that there are currently an estimated 250 ongoing clinical trials with ATMPs in Europe, most of which are still in early phases of development and with more than half originating from non-commercial organisations (hospitals and academia) and micro, small and medium-sized enterprises (SMEs).

Several speakers provided examples of clinical and manufacturing specificities and requirements for stem cells and cell therapy medicinal products, and highlighted some of the challenges currently encountered during development. Challenges relate to and include manufacturing (e.g. GMP compliance, characterisation, development and availability of validated potency assays), pre-clinical testing (e.g. lack of availability of relevant animal models, proof of concept), clinical development (e.g. trial methodology, blinding, comparator, feasibility of dose finding studies and biodistribution studies). Other challenges raised for discussion included patients access, affordability, diversities in EU healthcare landscape for HTAs and payers.

Workshop participants engaged in discussions on the adequacy of business development models for such products, the implementation of the ATMP legislative framework and the legal and regulatory provisions available, such as the ATMP certification scheme (link), guidance on the risk-based approach (link) and hospital exemptions. Other topics raised included the recent regulatory initiatives to support early access e.g. parallel EMA scientific Advice with Health Technology Assessment bodies (HTAs) (link) and adaptive pathways (link).

Paula Salmikangas, Chair of the CAT, highlighted in her concluding remarks that a 'One size does not fit all' approach needs to be borne in mind for advanced therapies. She invited all stakeholders to work together to identify solutions to support the delivery and early access of safe and effective treatments to address the unmet medical needs of patients.

Eduardo Bravo closed the meeting and thanked the audience for their participation. He concluded that the meeting had provided an excellent platform for representatives from patients' organisations, academia, regulators, industry (SMEs and large pharmaceutical companies), public and private organisations, investors, and EU HTAs to discuss the barriers to be overcome in the future and spotlight how stakeholders can work towards a common goal - to foster further successful developments in the ATMP field.