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MEDICINES EVALUATION BOARD

Current trends in ATMPs

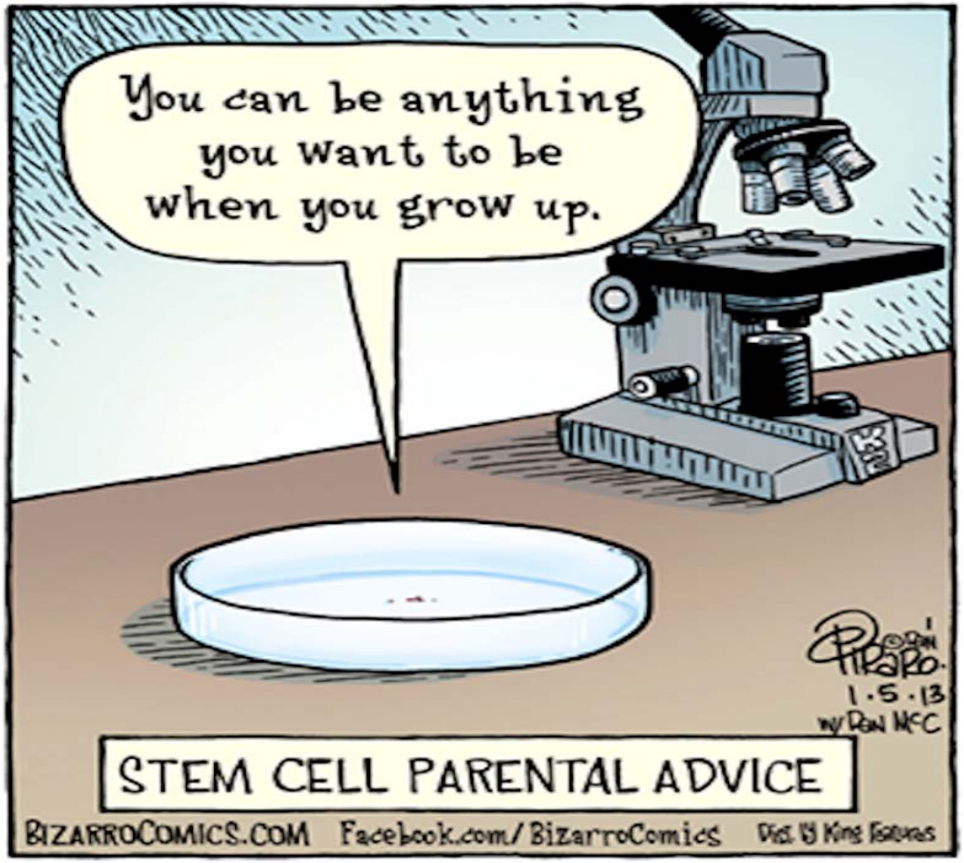
GOOD MEDICINES USED BETTER

Genes and cells

ATMPs

- **Gene therapy MP**
  contain genes that lead to a therapeutic, prophylactic or diagnostic effect
- **Somatic cell therapy MP**
  contain cells or tissues that have been manipulated or not intended to be used for the same essential functions
- **Tissue engineered products**
  contain cells or tissues that have been modified so they can be used to repair, regenerate or replace human tissue

EC regulation 1394/2007



Highlights ATMP regulation

REGULATION (EC) No 1394/2007 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

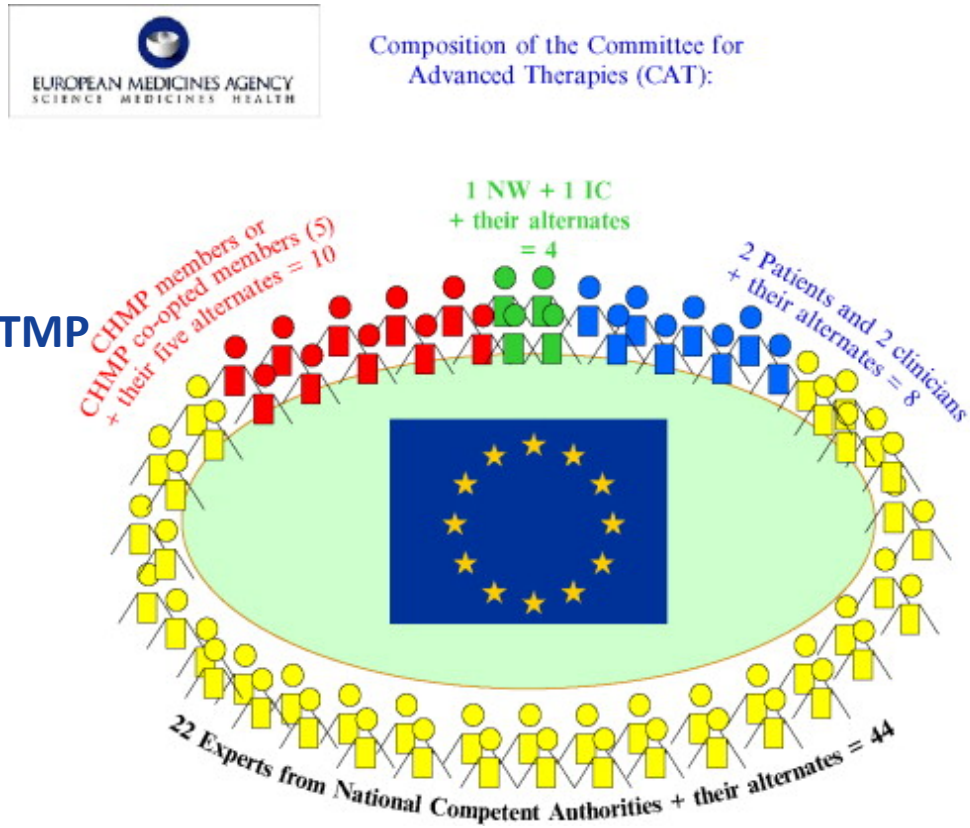
of 13 November 2007

on advanced therapy medicinal products and amending Directive 2001/83/EC and Regulation (EC) No 726/2004

- Definition of gene therapy MP, cell therapy MP and TEP
- Classification as medicinal products
  - Marketing authorisation
  - Demonstration of quality, safety and efficacy
  - GMP, GCP
  - Post-authorisation vigilance and RMP
- Authorised in EU via the centralised procedure
- Committee for Advanced Therapies (CAT)

ATMP discussions in CAT

- **Evaluation of ATMPs**
  - Marketing Applications
  - Type II variations
- **Certification**
- **Scientific recommendation on Classification of ATMP**
- **Scientific advice**
- **Prime eligibility**



https://www.ema.europa.eu/en/committees/cat/cat-agendas-minutes-reports#agendas-section

Marketing Authorisations

Initial Evaluation of Marketing Authorisation Applications (MAA) for ATMP											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Submitted MAAs	3	1	2	3	2	2	1	1	4	3	22
Positive draft Opinion	1	0	1[ii]	1[ii]	2	1	1	2	2	3	14*
Negative draft opinions	1[i]	0	1[ii]	0	0	0	2[iii]	0	0	0	4
Withdrawals	1	1[i]	0	0	2	0	0	0	0	1	5
Ongoing MAAs											3

*** Corresponding to 13 ATMPs**

[i] Same product (Cerepro)

[ii] Same product (Glybera)

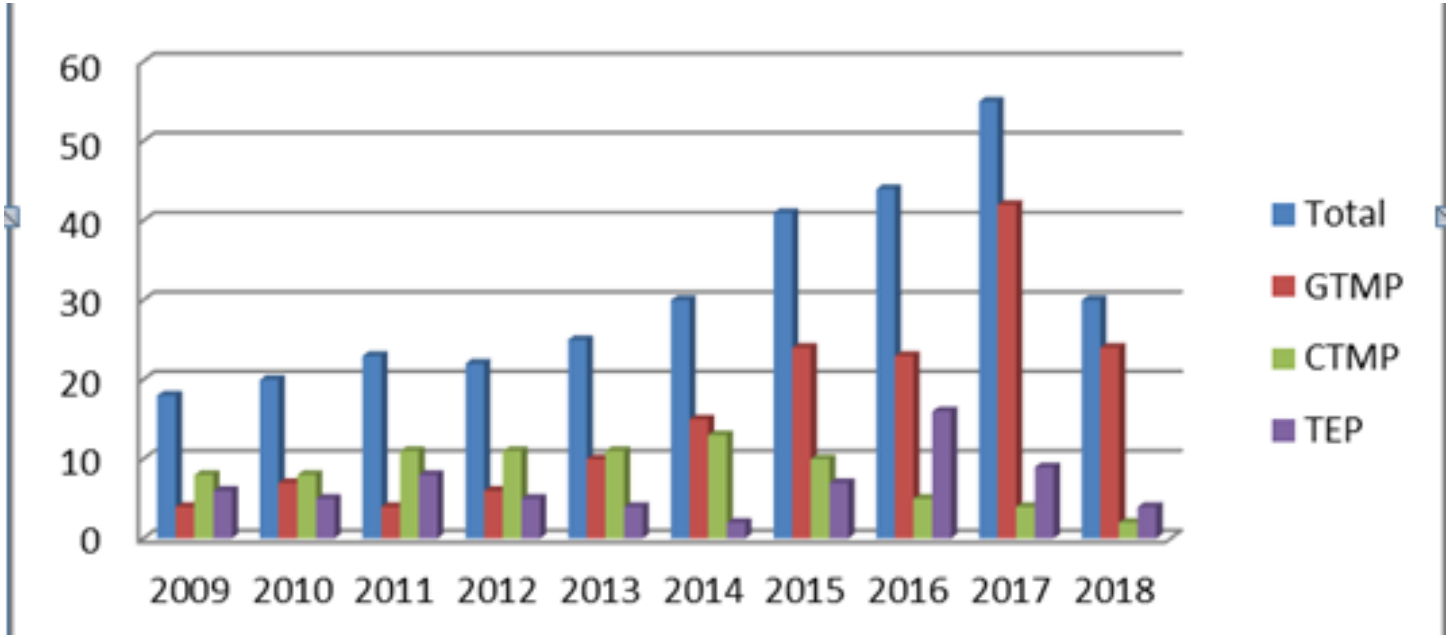
[iii] CAT adopted two negative draft opinions for the same product (Heparesc)

Certification and Classification

Scientific recommendation on advanced therapy classification											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Submitted	22	19	12	22	20	28	61	60	46	55	345
Adopted	12	27	12	16	23	29	31	87	49	43	329

Certification of quality and non-clinical data for small and medium-sized enterprises developing ATMPs											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Submitted	1	0	0	1	3	1	1	2	2	1	12
Adopted	0	1	0	1	1	2	1	1	3	1	11

Scientific Advice



Scientific advice procedure for ATMPs											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Number of procedures	17	19	21	19	23	33	39	46	55	53	325

Authorised ATMPs

13 products

Chondrocelect	TEP	5/10/09	MA withdrawn
Glybera	GTMP	25/10/12	MA ended
MACI	TEP, combined	27/6/13	MA ended
Provenge	CTMP	6/9/13	MA withdrawn
Holoclar	TEP	17/2/15	
Imlygic	GTMP	16/12/15	
Strimvelis	GTMP*	26/5/16	
Zalmoxis	CTMP*	18/8/16	
Chondrosphere	TEP	10/7/17	
Alofisel	CTMP	23/3/18	
Yescarta	GTMP*	23/08/18	
Kymriah	GTMP*	22/08/2018	
Luxturna	GTMP	22/11/2018	

* ex vivo genetic modification

Trends

Increase in numbers across procedures

(but no double digits in number of MAA)

Increase in experience

(we learn how to use the products)

Increase in observed benefit

(game changers)

Most promising product types

- **CAR T cells**
- **AAV for haemophilia**
- **Autologous HSCT for monogenetic diseases**

Open questions

- Retreatment with AAV
- Indication: biomarker vs disease/condition
- Comparability and characterisation and variability
- Limitations in clinical data
- When to treat
- Pricing and reimbursement

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