

## **CMV** resistance to antivirals is still an unmet need: **Results from the French National surveillance 2006-2020**





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Introduction

Since 2006, the French CNR for Herpesviruses is in charge of the national surveillance of resistance to anti-CMV compounds. We present the global assessment of resistance genotypes, detailed for the year 2020 where data are comprehensive for the French territory.

**Methods** 

## Network:

National Reference Center laboratories Limoges and Paris (90%) and two hospital laboratories (Nantes and Paris) with help of all French hospital virologists.



Genotyping indication: Refractory infections

**Before 2018:** viral replication persisting for more than 3 weeks on treatment (CNR recommendations, Hantz et al. 2010) **Since 2018:** «viral replication persisting for more than 15 days in a previously treated patient "

(International consensus 2017 and IDSA) recommendations)

Sanger sequencing of full-length genes UL97, UL54 + UL97/UL27 + UL56/UL89 since 2019 **Expert/participants to the annual QCMD Quality control** 



Recherche de Résistance Mutations sui **UL97** UL89 UL54 UL27 **UL56** 



Focus 2019-2020-2021



## Marker transfer of new mutations by bacmid technology

New mutations in clinical samples:	DNA Pol Inhibitors		LMV		MBV	
Colour code for UL54 :	UL97/GCVR	UL54	UL56	UL51	UL97/MBV R	
GCV + CDV	F342Y#	E315D	UL56 R246C***	A95V	C480F	
FOS	IS50 2,9	E381A			N510S	IS50 3
CDV		Y538C			P536T***	IS50 2,7
FOS + GCV		T552S				
FOS + GCV + CDV		H686Y				
GCV + MBV		G698V				
Others:		1726T				
Manual Annual and a 3		117200				



pUL54 (Modeller from HSV1 polymerase)

The stable number of resistance genotyping asked by centers illustrates the constant risk of treatment failure, and emergence of resistance, even during Covid 19 pandemics, with the risk of late diagnosis due to lower access to medical structures.

References: Chou S. et al. AVR 2020, Piret et al., JID 2019, Paccoud et al., Curr Res in Transl. Med 2022, Santos-Bravo et al. JID 2020, and Spectrum J 2022 In press.