CMV - The Troll of Transplant and its complications among post liver transplant patients

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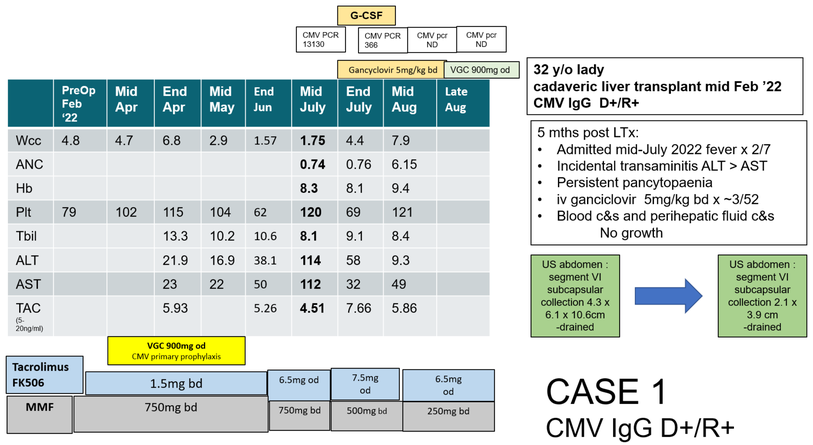
Introduction :

Cytomegalovirus (CMV) has been an important immune-modulating virus affecting organ transplant recipients, contributing directly and indirectly to both morbidity and mortality in these patients. CMV serostatus that carries the highest risk is D+/R- (donor positive, recipient negative) IgG positivity, followed by recipient IgG positive (irrespective of donor serostatus). We describe 3 cases which developed early and late complications indirectly due to CMV disease. All had no evidence of CMV retinitis and were on tacrolimus and mycophenolate mofetil (MMF).

Case 1: CMV related pancytopenia and liver abscess.

NF, a 32 year old lady, with history of secondary biliary cirrhosis, with CMV serostatus D+/R+ (Valganciclovir 900mg daily given as prophylaxis for 3 months). 5 months post transplant, she was admitted for persistent pancytopaenia with hepatitis, and treated with 3 weeks IV ganciclovir for CMV disease with culture negative liver abscess which was successfully drained. Pancytopenia improved.

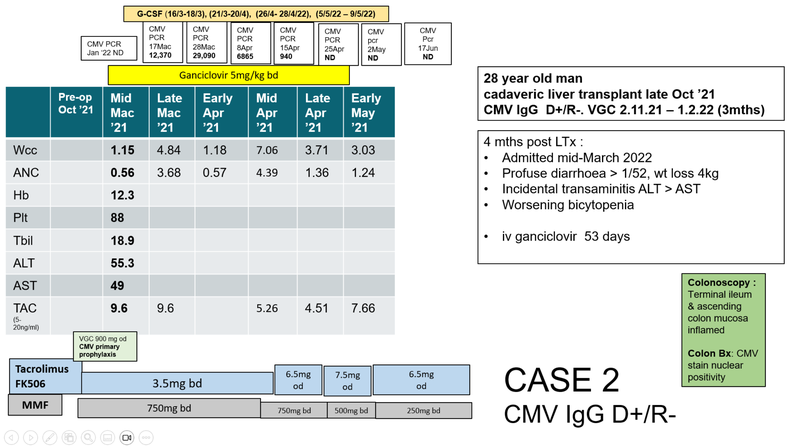


	PreOp Feb '22	Mid Apr	End Apr	Mid May	End Jun	Mid July	End July	Mid Aug	Late Aug
Wcc	4.8	4.7	6.8	2.9	1.57	**1.75**	4.4	7.9	
ANC						**0.74**	0.76	6.15	
Hb						**8.3**	8.1	9.4	
Plt	79	102	115	104	62	**120**	69	121	
Tbil			13.3	10.2	10.6	**8.1**	9.1	8.4	
ALT			21.9	16.9	38.1	**114**	58	9.3	
AST			23	22	50	**112**	32	49	
TAC (5-20ng/ml)			5.93		5.26	**4.51**	7.66	5.86	

CASE 1
CMV IgG D+/R+

Case 2 : CMV colitis

SCM, a 28 year old man with CMV serostatus D+/R- (Valganciclovir 900mg daily given as prophylaxis for 3 months). 4 months post transplant, he was admitted for profuse diarrhoea and bicytopenia, and treated 53 days IV ganciclovir for CMV colitis. Subsequently, the bicytopenia recovered.

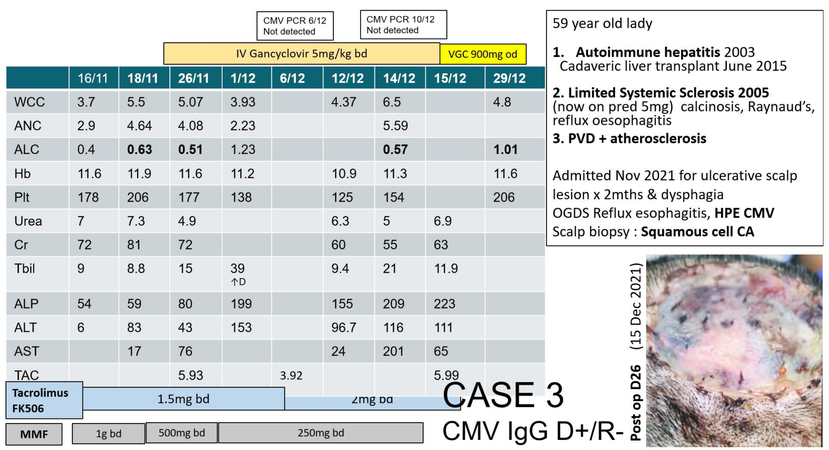


	Pre-op Oct '21	Mid Mac '21	Late Mac '21	Early Apr '21	Mid Apr '21	Late Apr '21	Early May '21
Wcc		**1.15**	4.84	1.18	7.06	3.71	3.03
ANC		**0.56**	3.68	0.57	4.39	1.36	1.24
Hb		**12.3**					
Plt		**88**					
Tbil		**18.9**					
ALT		**55.3**					
AST		**49**					
TAC (5-20ng/ml)		**9.6**	9.6		5.26	4.51	7.66

CASE 2
CMV IgG D+/R-

Case 3 : CMV oesophagitis

CCK, 59 year old woman with CMV serostatus D+/R-, post cadaveric liver transplant 8 years ago. She had 2 months history of dysphagia and ulcerative scalp lesion. OGDS showed reflux oesophagitis changes and histology proven CMV, scalp biopsy squamous cell carcinoma. IV ganciclovir was given for 3 weeks followed by oral valganciclovir 900mg od for another 2 weeks with resolution in lymphopenia and improved OGDS findings.



	16/11	18/11	26/11	1/12	6/12	12/12	14/12	15/12	29/12
WCC	3.7	5.5	5.07	3.93		4.37	6.5		4.8
ANC	2.9	4.64	4.08	2.23			5.59		
ALC	0.4	**0.63**	**0.51**	1.23			**0.57**		**1.01**
Hb	11.6	11.9	11.6	11.2		10.9	11.3		11.6
Plt	178	206	177	138		125	154		206
Urea	7	7.3	4.9			6.3	5	6.9	
Cr	72	81	72			60	55	63	
Tbil	9	8.8	15	39 ↑D		9.4	21	11.9	
ALP	54	59	80	199		155	209	223	
ALT	6	83	43	153		96.7	116	111	
AST		17	76			24	201	65	
TAC			5.93		3.92			5.99	

CASE 3
CMV IgG D+/R-

Discussion

Treatment duration of gastrointestinal CMV disease should be patient-specific, and guided by virologic and clinical improvement. If CMV viremia is present, at least two consecutive negative CMV PCR must be taken 1 week apart to ensure viral clearance prior to antiviral discontinuation. Consideration should be made for reduction in immunosuppressive therapy to the lowest possible safe dose, especially in patients with severe CMV disease, non-response to therapy, high viral load, or leukopenia.

References

1. Razonable RR, Humar A. CMV in solid organ transplant recipients—guidelines of the American Society of Transplantation Infectious Diseases Community of Practice. Clinical transplantation. 2019 Sep;33(9):e13512.
2. Fishman JA. Infection in solid-organ transplant recipients. New England Journal of Medicine. 2007 Dec 20;357(25):2601-14.