

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Bortezomib monotherapy for relapse multiple myeloma

Note on calculations performed by NICE technical team based on Jansen-Cilag's economic model

Tabled at Committee Meeting 8 May 2007

In response to the Appeal Panel decision the Institute asked the manufacturer of bortezomib, Jansen-Cilag (J-C) to provide some additional analysis, particularly around the cost effectiveness of bortezomib using the proposed Velcade response scheme (VRS), which J-C provided in a resubmission. Based on a request from the Chair and the Lead Team, J-C was contacted to provide some additional information regarding the re-submission, including an incremental analysis of the newly introduced stopping time and response options. This incremental analysis was not provided. The technical team at NICE therefore extracted the data needed for the incremental analysis from the economic model provided by the manufacturer, and carried out incremental analysis. The results are provided in this note.

Table 1: Costs and QALY-months in the bortezomib arm of the J-C economic model submitted in April 07 (data derived from Summary worksheet of the economic model)

Response criteria	Rebate or not	Stopping rule (months)	responders included*	Costs (£) in bortezomib arm	QALY-months in bortezomib arm
EBMT	no rebate	3	CR + PR	32489	24.95
EBMT	no rebate	4	CR + PR	34933	25.62
EBMT	no rebate	3	CR + PR + MR	33800	25.17
EBMT	no rebate	4	CR + PR + MR	35753	25.62
EBMT	rebate	3	CR + PR	28181	24.95
EBMT	rebate	4	CR + PR	28746	25.62
EBMT	rebate	3	CR + PR + MR	29623	25.17
EBMT	rebate	4	CR + PR + MR	29927	25.62
ini M-protein	no rebate	3	CR + PR	30075	25.85
ini M-protein	no rebate	4	CR + PR	31845	25.85
ini M-protein	no rebate	3	CR + PR + MR	33326	25.62
ini M-protein	no rebate	4	CR + PR + MR	34163	25.85
ini M-protein	rebate	3	CR + PR	26206	25.85
ini M-protein	rebate	4	CR + PR	26048	25.85
ini M-protein	rebate	3	CR + PR + MR	30770	25.62
ini M-protein	rebate	4	CR + PR + MR	30738	25.85

* CR= complete response, PR= partial response, MR= minimum response

Table 2: Incremental analysis

Response criteria	Rebate	Stopping rule (months)	responders included*	Costs (£)	QALY-months	ICER (£ per QALY)	
HDD	-	-	-	11593	17.47		
ini M-protein	yes	4	CR + PR	26048	25.85	20699	
ini M-protein	Yes	3	CR + PR	26206	25.85	dominated	Appeal panel rebate scenario
EBMT	Yes	3	CR + PR	28181	24.95	dominated	
EBMT	Yes	4	CR + PR	28746	25.62	dominated	
EBMT	Yes	3	CR + PR + MR	29623	25.17	dominated	
EBMT	Yes	4	CR + PR + MR	29927	25.62	dominated	
ini M-protein	no	3	CR + PR	30075	25.85	dominated	J-C VRS proposal
ini M-protein	yes	4	CR + PR + MR	30738	25.85	dominated	
ini M-protein	yes	3	CR + PR + MR	30770	25.62	dominated	
ini M-protein	no	4	CR + PR	31845	25.85	dominated	
EBMT	no	3	CR + PR	32489	24.95	dominated	
ini M-protein	no	3	CR + PR + MR	33326	25.62	dominated	
EBMT	no	3	CR + PR + MR	33800	25.17	dominated	
ini M-protein	no	4	CR + PR + MR	34163	25.85	dominated	
EBMT	no	4	CR + PR	34933	25.62	dominated	
EBMT	no	4	CR + PR + MR	35753	25.62	dominated	

* CR= complete reponse, PR= partial response, MR= minimum response

Table 3: Pair-wise analyses

Response criteria	Rebate	Stopping rule (months)	responders included*	Costs (£)	QALY-months	ICER (£ per QALY)	Comments
HDD	-	-	-	11593	17.47		
3 cycles to 4 cycles							
EBMT	no	3	CR + PR	32489	24.95		
EBMT	no	4	CR + PR	34933	25.62	43773	
EBMT	no	3	CR + PR + MR	33800	25.17		
EBMT	no	4	CR + PR + MR	35753	25.62	52080	
EBMT	yes	3	CR + PR	28181	24.95		
EBMT	yes	4	CR + PR	28746	25.62	10119	
EBMT	yes	3	CR + PR + MR	29623	25.17		
EBMT	yes	4	CR + PR + MR	29927	25.62	8107	
ini M-protein	no	3	CR + PR	30075	25.85		
ini M-protein	no	4	CR + PR	31845	25.85	-	3 cycles dominate
ini M-protein	no	3	CR + PR + MR	33326	25.62		
ini M-protein	no	4	CR + PR + MR	34163	25.85	43670	
ini M-protein	yes	3	CR + PR	26206	25.85		

ini M-protein	yes	4	CR + PR	26048	25.85	-	4 cycles dominate
ini M-protein	yes	3	CR + PR + MR	30770	25.62		
ini M-protein	yes	4	CR + PR + MR	30738	25.85	-1670	
EBMT to Initial M							
EBMT	no	3	CR + PR	32489	24.95		
ini M-protein	no	3	CR + PR	30075	25.85	-32187	Initial M dominates
EBMT	no	3	CR + PR + MR	33800	25.17		
ini M-protein	no	3	CR + PR + MR	33326	25.62	-12640	Initial M dominates
EBMT	yes	3	CR + PR	28181	24.95		
ini M-protein	yes	3	CR + PR	26206	25.85	-26333	Initial M dominates
EBMT	yes	3	CR + PR + MR	29623	25.17		
ini M-protein	yes	3	CR + PR + MR	30770	25.62	30587	
EBMT	no	4	CR + PR	34933	25.62		
ini M-protein	no	4	CR + PR	31845	25.85	-161113	Initial M dominates
EBMT	no	4	CR + PR + MR	35753	25.62		
ini M-protein	no	4	CR + PR + MR	34163	25.85	-82957	Initial M dominates
EBMT	yes	4	CR + PR	28746	25.62		
ini M-protein	yes	4	CR + PR	26048	25.85	-140765	Initial M dominates
EBMT	yes	4	CR + PR + MR	29927	25.62		
ini M-protein	yes	4	CR + PR + MR	30738	25.85	42313	
CR+PR to CR+PR+MR							
EBMT	no	3	CR + PR	32489	24.95		
EBMT	no	3	CR + PR + MR	33800	25.17	71509	
EBMT	no	3	CR + PR	28181	24.95		
EBMT	no	3	CR + PR + MR	29623	25.17	78655	
EBMT	yes	4	CR + PR	34933	25.62		
EBMT	yes	4	CR + PR + MR	35753	25.62	-	CR+PR dominates
EBMT	yes	4	CR + PR	28746	25.62		
EBMT	yes	4	CR + PR + MR	29927	25.62	-	CR+PR dominates
ini M-protein	no	3	CR + PR	30075	25.85		
ini M-protein	no	3	CR + PR + MR	33326	25.62	-169617	CR+PR

							dominates
ini M-protein	no	3	CR + PR	26206	25.85		
ini M-protein	no	3	CR + PR + MR	30770	25.62	-238122	CR+PR dominates
ini M-protein	yes	4	CR + PR	31845	25.85		
ini M-protein	yes	4	CR + PR + MR	34163	25.85	-	CR+PR dominates
ini M-protein	yes	4	CR + PR	26048	25.85		
ini M-protein	yes	4	CR + PR + MR	30738	25.85	-	CR+PR dominates

All changes from Appeal Panel Scenario to J-C VRS proposal

i.e. from [3 cycles with rebate up to 3, CR+PR, EBMT] to [4 cycles with rebate up to 4, Initial M, CR+PR+MR]

EBMT	yes	3	CR + PR	28181	24.95		
ini M-protein	yes	4	CR + PR + MR	30738	25.85	34093	

* CR= complete reponse, PR= partial response, MR= minimum response

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