

RESPONSES TO MANNITOL IN A PHASE III MULTICENTRE TRIAL:  
OPPORTUNITY TO RECONSIDER ASTHMA AS A CAUSE OF COUGH?

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Mannitol (Aridol™ Pharmaxis Ltd, Frenchs Forest NSW) is used for bronchial provocation (BP) to assess people with or suspected of having asthma. Response to mannitol can be used to:- monitor response to inhaled corticosteroids (ICS); predict outcome of back titration of dose of ICS; investigate asthma as a cause of cough.

We compared prevalence & frequency of respiratory symptoms (Sx), particularly cough, in the week prior to BP in 245 subjects with doctor-diagnosed asthma.

**Analysis:** A positive response to mannitol (M+) was  $\geq 15\%$  fall in FEV<sub>1</sub> in response to increasing doses (5,10,20,40,80,160,160,160 mg) while a negative response (M-) was  $< 15\%$  fall in FEV<sub>1</sub> after a cumulative dose of 635mg.

**Results:** Data from questionnaire about week preceding challenge.

	n	Age (yr)	BMI	%Pred FEV <sub>1</sub>	%Fall FEV <sub>1</sub>	Median PD <sub>15</sub>	On ICS	On $\beta_2$	No Rx	No Sx
M <sup>+</sup>	146	30	25.7	91±13	20±5	133 mg	70%	30%	-	18%
M <sup>-</sup>	99	39	27.4	100±15	6±4	-	80%	11%	9%	14%

	Wheeze	Trouble breathing	Days of troubled/interrupted		$\beta_2$ Agonist	
			breathing	activities	Use of	Puffs of
M <sup>+</sup>	55%	40%	2.6 ±2.0	3.0±2.0	64%	8.4
M <sup>-</sup>	28%	34%	2.1± 1.9	2.2±2.2	46%	7.0

<b>COUGH</b>	Day	Night	Occasional	Frequent	all day	No. Days	No. Nights
M <sup>+</sup>	48%	32%	81%	19%	0%	3.9	2.7
M <sup>-</sup>	63%	38%	79%	11%	8%	4.3	3.1

**Conclusions:** The high prevalence of cough in those with a response to mannitol within the range documented in normal healthy subjects was unexpected. Taken together with the normal FEV<sub>1</sub> in this group, we conclude that causes of cough other than asthma should be considered, as well as the effectiveness of the current treatment regimen for the control of cough.

**Key Words:** Mannitol, asthma, cough, bronchial provocation