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Efficacy of azithromycin in a real world severe asthma cohort

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Background:

Azithromycin 500mg three times a week has been shown to reduce exacerbation rates in severe asthma[Gibson, P.G. et al. ERJ Open Res 2019; 5: 00056-2019].

Aim:

To explore the real-world efficacy of azithromycin in a severe asthma cohort.

Method:

We performed a retrospective review of exacerbations one-year pre and post starting azithromycin in 100 severe asthma patients.

Results:

After 1 year of treatment an overall reduction of 35% (5.8 to 3.7, $p=0.0001$) in exacerbations and an improvement in % predicted FEV1 (66.7 v 68.8, $p=0.022$) was seen (see table 1). The reduction in exacerbations was not affected by radiological presence of bronchiectasis, positive sputum culture or peripheral eosinophilia. In patients with peripheral eosinophilia an average reduction in exacerbations of 23% was seen compared to 40% (2.91 v 4.02, $p=0.105$) in those without. 60% of our cohort were prescribed azithromycin at 250mg three times a week.

	1 year pre- azithromycin (exacerbations)	1 year post azithromycin (exacerbations)	p-value
Overall (n=100)	5.8	3.7	0.0001
Bronchiectasis (n=23)	6.3	4.2	0.0018
No Bronchiectasis (n=53)	5.5	3.2	0.0001
Positive sputum (n=50)	5.8	3.6	0.0001
Negative sputum (n=49)	5.7	3.9	0.0053
Eos $\geq$ 0.3 (n=35)	5.4	4	0.1009
Eos <0.3 (n=65)	6.0	3.6	0.0000
750mg azithromycin/week (n=60)	6.1	4.4	0.0007
>750mg azithromycin/week (n=40)	5.4	2.8	0.0000

Conclusion:

Our single centre real world evaluation confirms that azithromycin led to a significant reduction in exacerbations in our severe asthma cohort. 60% took azithromycin at half the dose used in the AMAZES trial, suggesting lower dosing may be possible.