Asthma is a heterogeneous disease that requires physicians to further phenotype their patients in order to offer carefully customised treatment. Among recent and rapidly evolving tools at clinicians’ disposal are sputum analysis for several markers of inflammation, particularly sputum eosinophil count has become a marker widely used. Sputum differential cell counting was introduced in our severe asthma clinic to help further phenotype our patients with a view to first reducing sputum eosinophils below 3% by augmenting anti-inflammatory therapy, and attempting steroid withdrawal once subjects became sputum eosinophil negative (E−). This report investigates its impact on the management of patients with negative sputum eosinophilia at baseline. To date, 264 patients were included in the audit. Of these, 71 had 2 or more valid results enabling us to assess how these subjects were managed following their initial negative cell count results. Out of 42 patients initially E−, 36 remained E−. Twenty-seven were offered a trial of reduction in steroid therapy: 2 patients stopped IM triamcinolone (both remained E−); 20 patients had decreased oral prednisolone treatment (15 remained E−); 5 patients decreased inhaled steroid therapy (all remained E−).

Depsite negative sputum at baseline, five patients were given a trial of triamcinolone, to confirm their absence of response to steroids, of these 4 remained E−, whilst surprisingly 1 patient became E+. In those E+ at baseline, 64% had a reduction in steroid therapy. Of these more than 80% remained E+, despite reduced therapy, whilst 20% had recurrence of E+. For 83% of those who became E+, there were strong indications that their initial dose of maintenance oral steroids was probably already optimal. It is surprising that five patients were offered a trial of IM triamcinolone despite initial negative sputum eosinophils. However, it has been recently reported that increased steroid therapy in sputum non-eosinophilic patients still had positive impact on reducing markers of inflammation different from sputum eosinophils. It was possible to reduce steroid therapy without losing asthma control for 80% of patients initially E−.

**Conclusion**

Combination FPSM confers greater improvements in AHR and airway caliber in smoking asthmatics, as compared to double the dose of FP alone. It is likely that in the face of the relative steroid resistance, the smooth muscle stabilisation conferred by SM becomes of greater clinical importance.
P174 Identifying non-adherence with asthma medication and the relationship to clinical outcomes amongst adults with difficult-to-control asthma

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