



Changing the approach – the value of FeNO testing in a Respiratory Hub

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ABSTRACT

The aim of the Wallsend Respiratory hub was to deliver quality assured, ARTP level, spirometry within primary care in Wallsend and improve asthma management across the Primary Care Network.

As part of this project, we wanted to assess the ease of use, feasibility and value of using a FeNO machine to aid diagnosis and medicines management.

Whilst we have not gained sufficient data to provide significant quantitative results yet, we have qualitative data in the form of 4 cases.

We have discovered that FENO testing is not just about diagnosis, it is about tailoring the treatment to the patient so the patient gets the best possible individualised asthma treatment which appears to have a benefit of cost saving and reduction of steroid burden.

We have found that FeNO is a useful tool for prompting behavioural change in patients and prescribers. It provides an extra bit of the jigsaw and gives confidence to both around stepping up and down Inhaled Corticosteroid doses.

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AIM

The Wallsend respiratory hub is run by a GP, Clinical Pharmacist, experienced Nurse with ARTP qualification and a nurse in training. We received an Education Grant from Napp Pharmaceuticals for a FENO Machine to run 500 tests to be used from October 2018 over a one year period.

The aim was to deliver quality assured, ARTP level, spirometry and improve asthma management for the Wallsend Primary Care Network, a historical shipbuilding community.

As part of this project, we wanted to assess the ease of use, feasibility and value of using a FeNO machine to aid diagnosis and medicines management.

METHOD

We received training on the use of the FeNO Niox Vero® machine and proceeded to see patients for both assessment and inhaler review.

Patients referred for spirometry were seen by the nurses to review their respiratory history, perform spirometry, measure FeNO and do reversibility testing if indicated. They were then seen by the pharmacist to offer inhaler choice and for counselling on inhaler technique of their preferred device.

The Pharmacist also reviewed patients on high dose inhaled corticosteroids to assess their symptom control, inhaler technique, adherence, exacerbation history and the potential for dose reduction. The GP was available for support as needed.



CONCLUSION

We have found the FeNO machine to be easy to use and has added much value to the way we work in the Respiratory hub.

The cases showed how FeNO testing provided an additional part of the respiratory jigsaw. It aided diagnosis, patient compliance, ICS dose adjustment and helped minimise ICS side effects. It has also helped us as prescribers comply with national guidance, such as stepping down ICS doses, using Montelukast at an earlier stage and more appropriate use of respiratory medicines in line with NRAD recommendations.

It gave confidence both to patient and prescriber about making changes and by supporting the decision making process, was a useful tool in behavioural change.

RESULTS- cases

Case 1 Male aged 36

Breathless at night, wheeze, night time waking, all worse since he got a new pet MRC 3, Peak flow 434L/min, O2 sat 98%, Pack years 4, his Dad has asthma. He used Salbutamol MDI PRN with spacer. FEV1/FVC 0.69, FEV1 93%, increased to 104% (220ml reversibility). FeNO 104.

Diagnosis was likely asthma and he was started on Clenil 200 MDI 2P BD. Reviewed 6 weeks later. ACT 15, FeNO 20 - much improved but still some symptoms. Using Salbutamol about twice daily and has improved since removing the trigger. Clenil dose reduced to low dose and given option to try Montelukast. Reviewed again one month later. ACT 21, FeNO 21. Symptoms improved and benefitted from Montelukast despite side effects (initially vomiting, now dry skin and mouth). Patient happy with this regimen. GP quote 'FeNO is a very exciting and new concept to Primary care. We found that patients really like the FeNO; a patient seeing FeNO reducing from 104 to 20 after 4 weeks of ICS could really see improvement which helped with compliance.'

Case 2 Female aged 39

Normal spirometry but suspected asthma; Peak flow variability. Intermittent breathlessness with exercise and wheeze. Dry cough since Christmas, especially at night. Has been using Salbutamol MDI 4-8 puffs per day but does not help. Never smoked but brother has asthma. Triggers include extremes of temperature but no allergies. FeNO 49 - suggestive of asthma. Given trial of low dose Clenil MDI, inhaler technique demonstrated and given Flo-tone device to aid technique. Asthma PIL given and advised to see her own nurse in 2 weeks.

Nurse quote 'this has dramatically changed the way we think about asthma'

Case 3 Male 69

On Seretide 250 Evohaler 2P BD (high dose) plus Salbutamol MDI PRN for asthma. Uses Seretide only in the morning and rarely uses Salbutamol. Inhaler technique good. Triggers were cold, exercise. No exacerbations in past year. ACT 21, FeNO 27. Switched to Fostair 200/6 2P BD (high dose) but kept high dose as FeNO > 25 and encouraged to use TWICE daily. Reviewed 2 months later. ACT 25, FeNO 19 - Good adherence and inhaler technique, feels stable and happy. ICS dose reduced to medium dose.

Case 4 - male aged 60

On high dose Seretide Accuhaler 500 1dose BD and Salbutamol Accuhaler PRN. Adherence generally good but sometimes forgets at weekends/ if going out. Inhaler technique was moderate so given advice on how to improve. Triggers were extremes of heat or cold; No exacerbations in past year. Used 3 Salbutamol MDI inhalers in past year. ACT 18, FeNO 13. Switched to DuoResp Spiromax; ICS dose stepped down to 320/9 1P BD (medium dose). Reviewed 2 months later. ACT 17 but had 'flu, FeNO 13 plus acid reflux symptoms which may cause cough. Given lifestyle advice and plan to continue with same dose ICS.

SUMMARY

FENO is not just about diagnosis, it is about tailoring the treatment to the patient so the patient gets the best possible individualised asthma treatment which appears to have a benefit of cost saving and reduction of steroid burden.

We have found a definite value in using FeNO from both patient and prescriber perspective and shall continue to collate our data to establish more quantitative outcomes.

REFERENCES

1. NICE NG 80, Asthma. 2017