Table C.8. Characteristics of the included studies in KQ 1d FeNO response to administration of Omalizumab

| Author, Year (ref) | Study Country, Study Design, Study Settings, Risk of Bias | FeNO and Comparisons | Patient Characteristics (Age, Gender, Race, BMI/Weight, Tobacco Use, Asthma Phenotype, Atopy, etc) | Ways of Administration (Frequency, Use of Alcohol/Mouthwash, Beta-Agonists Prior to Test) | Medication (Frequency, Dose, Duration, etc.) | Asthma Outcomes | Test Findings (Mean, SD) | Conclusions |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Silkoff, 2004 129 | United States,  RCT, outpatient setting, low risk of bias. | FeNO, N=29 | Mean age 9.6 years (SD: 1.4),  70 % males,  Weight 37.9 Kg (SD: 13.8). | Measured by using a standardized single breath  method, which conformed to American Thoracic Society  recommendations for FeNO measurement | 52 weeks Omalizumab (N= 18) vs placebo (N= 11). The dose of omalizumab was based on each patient’s serum total IgE level and body weight at baseline to provide a dose of at least 0.016 mg/kg per IU/mL of IgE per 4-week period. | During the first 12 week of the study where steroid doses were reduced, the variability of adjusted FeNO in the placebo group was greater than that of the omalizumab group at most visits, with a significant difference between groups for AUC of adjusted FeNO. However, Omalizumab reduced FeNO after 52 weeks as reported. | AUC for adjusted FeNO  Omalizumab  0.88 (SD: 0.69) vs placebo  1.65 (SD: 1.06).  Omalizumab  Baseline  41.9 (SD: 29.0)  At 52 weeks  18.0 (SD: 21.8) | Omalizumab reduced FeNO in children |
| Tajiri, 2014 130 | Japan, prospective observational study, outpatient setting, medium risk of bias. | FeNO, N =31 | Mean age 55 years (SD: 16),  32.3% males,  BMI 25.0 kg/m2 (SD: 5.3),  42% ever smoker. | Using a chemiluminescence analyzer (NOA 280; Sievers, Boulder, Colorado). Fractional eNO (FeNO) levels were determined at 3 expiratory flows of 50 (FeNO50), 100, and 200 mL/sec. | 48 weeks Omalizumab treatment. | FeNO changes from baseline to 48 weeks of treatment | Baseline  50.2 (SD: 60.1)  At 48 weeks  31.4 (SD:28.4 ) | Omalizumab reduced exacerbations and symptoms and FeNO in 31 adults asthmatics. |
| Spirometry, N =31 | Chestac-8800 (Chest, Tokyo, Japan). | FEV1 (L) changes from baseline to 48 weeks of treatment | Baseline  2.17 (SD: 0.53  At 48 weeks  2.24 (SD:0.55 |
| Asthma Quality of Life Questionnaire (AQLQ), N =31 |  | AQLQ Changes from baseline vs 48 weeks | 1.36 |
| Asthma Control Questionnaire (ACQ), N =31 |  | ACQ Changes from baseline vs 48 weeks | -1.11 |

AUC: area under the curve; FeNO: fraction exhaled nitric oxide; FEV1: forced expiratory volume in the first second; FEV1% pred: forced expiratory volume in the first second percentage predicted; RCT: randomized controlled trial; SD: standard deviation