# Asthme sévère :
## *innovations thérapeutiques*

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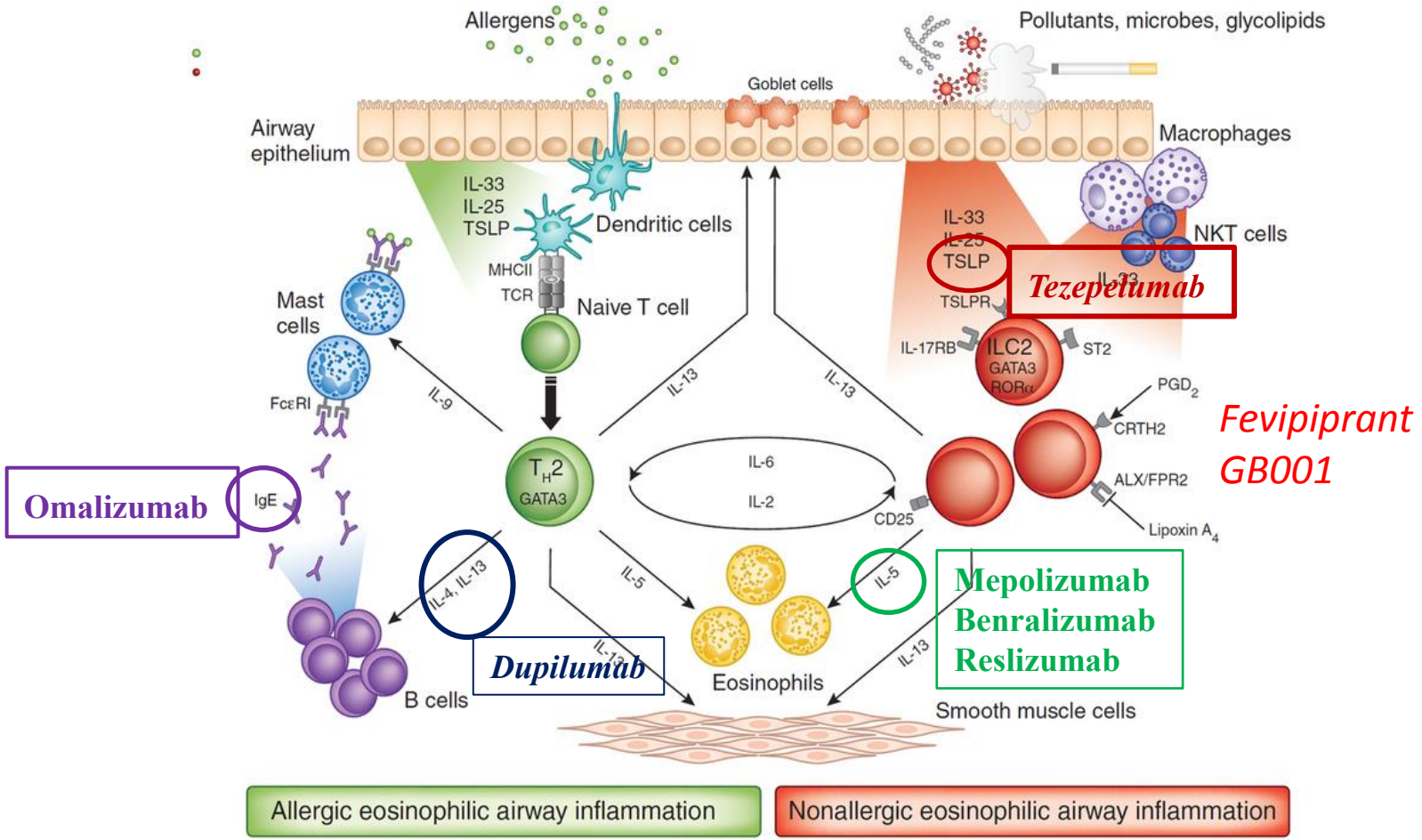
# Liens d’intérêt

| Période 2013-2019 | Industrie pharmaceutique |
|---|---|
| **Coordonnateur études** | Bayer, GSK, Sanofi |
| **Investigateur pour des études** | GSK, Sanofi, AZ, Novartis, Roche, ALK, Stallergene |
| **Consultant** | GSK, Novartis, AZ, Sanofi |
| **Invitation à des congrès** | GSK, Novartis, AZ, Chiesi, AZ |
| **Orateur rémunéré** | Novartis, ALK, Teva, GSK, Boeringher, Chiesi, AZ |


Allergens
Pollutants, microbes, glycolipids
Goblet cells
Airway epithelium
Macrophages
IL-33
IL-25
TSLP
Dendritic cells
MHCII
TCR
Naive T cell
Mast cells
FcεRI
IL-9
IL-13
IL-13
IL-33
IL-25
TSLP
NKT cells
Tezepelumab
TSLPR
IL-17RB
ILC2
GATA3
RORα
ST2
PGD2
CRTH2
ALX/FPR2
Lipoxin A4
Fevipiprant
GB001
Omalizumab
IgE
TH2
GATA3
IL-6
IL-2
CD25
IL-4, IL-13
IL-5
IL-5
Mepolizumab
Benralizumab
Reslizumab
Dupilumab
IL-13
IL-13
B cells
Eosinophils
Smooth muscle cells
Allergic eosinophilic airway inflammation
Nonallergic eosinophilic airway inflammation

# Les objectifs de la prise en charge de l'asthme

| A. Symptom control | | | | |
|---|---|---|---|---|
| **In the past 4 weeks, has the patient had:** | | **Well-controlled** | **Partly controlled** | **Uncontrolled** |
| • Daytime asthma symptoms more than twice a week? | Yes❑ No❑ | | | |
| • Any night waking due to asthma? | Yes❑ No❑ | None of these | 1-2 of these | 3-4 of these |
| • Reliever needed for symptoms* more than twice a week? | Yes❑ No❑ | | | |
| • Any activity limitation due to asthma? | Yes❑ No❑ | | | |
| **B. Risk factors for poor asthma outcomes** | | | | |
| • **Exacerbations** | | | | |
| • **Fixed airflow limitation ?** | | | | |
| • Medication side-effects | | | | |

GINA, 2018

# Biothérapie et VEMS :

## *l'objectif « historique »*

| | Ref | VEMS à l'inclusion (l) | VEMS à l'inclusion (%) | Gain après trt (l) | Gain après placebo (l) | Différence avec placebo |
|---|---|---|---|---|---|---|
| **Omalizumab** | **Humbert JACI 2005** | | 61,6 | 0,190 | 0,096 | 2,8% P=0,043 |
| **Mepolizumab** | **Ortega NEJM 2014** | 1,86 ±0,63 | 62,4 ±18 | 0,186 | 0,086 | 0,1 l P=0,03 |
| **Mepolizumab (sevrage corticoïdes)** | **Bel NEJM 2014** | 1,90 ±0,66 | 59,6 ±17,0 | | | 0,114 l P=0,15 |
| **Benralizumab** | **Fitzgerald Lancet 2016** | 1,77 | 58 | 0,330 | 0,215 | 0,116 l P=0,01 |
| **Benralizumab (sevrage corticoïdes)** | **Nair NEJM 2017** | 1,754 ±0,635 | 59,0 ±17,9 | 0,239 | 0,126 | 0,112 l P=0,129 |
| **Dupilumab** | **Castro NEJM 2018** | 1,76±0,61 | 58,43±13,22 | 0,34 | 0,21 | 0.13 l P<0.001 |
| **Dupilumab (sevrage corticoides)** | **Rabe NEJM 2018** | 1,58±0,57 | 52,18±15,18 | 0,22 | 0,01 | 0,22 l P<0,01 |

# Les exacerbations sévères

## *le critère « dur »*

- Mortalité (Levy, *Breathe,* 2015)
- Altération majeure de la qualité de vie
- Déclin accéléré du VEMS (Bai, *ERJ*, 2007)
- Coûts de santé importants (Lane, *Respir Med*, 2006)

**Table 6** Estimated costs associated with care type according to exacerbation severity.

| Exacerbation severity | Estimated cost of exacerbation (€, 95% CI) | Estimated cost of primary care management (€, 95% CI) | Estimated cost of secondary care management (€, 95% CI) |
|---|---|---|---|
| Mild | 737 (638, 836) $n = 428$ | 450 (344, 555) $n = 311$ | 1024 (861, 1187) $n = 117$ |
| Moderate | 881 (820, 941) $n = 1091$ | 456 (375, 538) $n = 609$ | 1305 (1215, 1396) $n = 482$ |
| Severe/RAI* | 1074 (989, 1159) $n = 533$ | 430 (294, 566) $n = 180$ | 1718 (1616, 1821) $n = 353$ |

*RAI, respiratory arrest imminent

# Biothérapies et exacerbations sévères :

## *une réduction significative*

- Réduction d'environ 50% avec les anti IgE, les anti IL-5 et IL5R et les anti IL-4-13R.

- *Est-ce suffisant ? Objectif « zéro exacerbation » ?*
- *A partir de quel seuil est-ce pertinent ?*
- *A partir de quel seuil est-ce coût-efficace ?*

Humbert, *JACI*, 2005
Farne, *Cochrane data base*, 2017
Bourdin, *ERJ*, 2018
Castro, *NEJM*, 2018

# Biothérapies et contrôle

*oui, mais quel outil choisir pour les mesurer ?*

- Résultats sur le contrôle statistiquement significatifs dans les essais, pas toujours cliniquement significatifs.

- *Effet atténué par un effet placebo très fort*
- *Valeur fluctuante dans le temps*
- *Tolérance des patients à leurs symptômes*
- *Scores impactés par la dyspnée, qui est souvent plurifactorielle*

# *Contrôle ou qualité de vie ?*

Etude MUSCA

| | Placebo (n=277) | Mepolizumab 100 mg (n=274) | Treatment difference (95% CI; p value) |
|---|---|---|---|
| SGRQ total score at week 24 (primary endpoint) | | | −7·7 (−10·5 to −4·9; p<0·0001) |
| Baseline SGRQ total score | 46·3 (18·9) | 47·4 (18·1) | -- |
| Change from baseline | −7·9 (1·0) [n=260] | −15·6 (1·0) [n=265] | -- |
| SGRQ domain scores at week 24 | | | |
| Symptom domain | | | −11·0 (−15·1 to −7·0; p<0·0001) |
| Baseline symptom domain score | 57·6 (24·3) | 59·9 (22·7) | -- |
| Change from baseline | −10·0 (1·5) [n=261] | −21·1 (1·4) [n=266] | -- |
| Activity domain | | | −7·2 (−10·6 to −3·9; p<0·0001) |
| Baseline activity domain score | 56·1 (22·0) | 57·2 (20·5) | -- |
| Change from baseline | −8·0 (1·2) [n=261] | −15·3 (1·2) [n=265] | -- |
| Impacts domain | | | −6·6 (−9·4 to −3·8; p<0·0001) |
| Baseline impacts domain score | 37·1 (20·3) | 38·0 (20·4) | -- |
| Change from baseline | −7·3 (1·0) [n=262] | −13·9 (1·0) [n=266] | -- |
| SGRQ responders* | | | 2·2 (1·6 to 3·2; p<0·0001) |
| SGRQ responders at week 24 | 151 (55%) [n=275] | 198 (73%) [n=273] | -- |
| ACQ–5 score at week 24 | | | −0·4 (−0·6 to −0·2; p<0·0001) |
| Baseline ACQ–5 score | 2·2 (1·2) | 2·2 (1·1) | -- |
| Change from baseline | −0·4 (0·1) [n=261] | −0·8 (0·1) [n=266] | -- |
| ACQ–5 responders | | | 2·0 (1·4 to 2·8; p=0·0014) |
| ACQ–5 responders† at week 24 | 116 (42%) [n=276] | 161 (59%) [n=274] | -- |

Data are mean (SD) for baseline scores, least-squares mean (SE) for changes from baseline, or n (%), except where otherwise stated. Treatment differences for responder analyses are presented as odds ratios. *SGRQ total score responders defined as patients achieving a reduction of four points or more from baseline in SGRQ score at week 24. †ACQ-5 score responders defined as patients achieving a reduction of 0·5 points or more from baseline in ACQ-5 score at week 24.

*Table 2:* **St George's Respiratory Questionnaire (SGRQ) and Asthma Control Questionnaire (ACQ)-5 endpoints in the modified intention-to-treat population**

Chupp, *Lancet Respir Journal*, 2017

# *Contrôle ou qualité de vie ?*

Dupilumab, phase 2b.

**Table 2**
Proportions of Responders at Week 24[a]

| | | | Dupilumab | |
|---|---|---|---|---|
| | | Placebo (n = 158) | 200 mg q2w (n = 150) | 300 mg q2w (n = 157) |
| Proportion of patients meeting or exceeding the MCID[b] | ACQ-5 total score | 61.4 | 76.7[e] | 72.6[d] |
| | AM asthma symptom score | 34.2 | 48.7[d] | 54.1[e] |
| | PM asthma symptom score | 34.2 | 52.7[e] | 53.5[e] |
| | AQLQ total score | 51.3 | 64.0[d] | 65.0[d] |
| Proportion of patients meeting or exceeding the MCID[c] | ACQ-5 total score | 60.1 | 76.7[e] | 72.6[d] |
| | AM asthma symptom score | 31.0 | 46.7[e] | 51.0[e] |
| | PM asthma symptom score | 31.0 | 50.0[e] | 51.6[e] |
| | AQLQ total score | 47.5 | 60.7[d] | 63.1[e] |

Corren, *Ann Allergy Asthma Immunol*, 2019

# *Des scores spécifiques pour l'asthme sévère ?*

| Item | Mean±SD# | Patients responding "very difficult" or "very, very difficult" % | Factor loading |
|---|---|---|---|
| 1. My social life. For example, visiting friends, walking with friends, talking with friends, going to bars/restaurants, and parties. | 4.11±1.94 | 25.2 | 0.88 |
| 2. My personal life. For example, washing, dressing, looking after myself, love life. | 4.98±1.98 | 15.0 | 0.81 |
| 3. My leisure activities. For example, walking for pleasure, sports, exercise, travelling, taking vacations. | 3.54±1.95 | 37.5 | 0.84 |
| 4. My jobs around the house. For example, housework, shopping, home maintenance, gardening. | 3.96±1.92 | 27.2 | 0.88 |
| 5. My work or education. For example, missing days, can't do all I want to do. | 4.78±2.64 | 25.7 | 0.6 |
| 6. My family life – how it affects me. For example, caring for children, family responsibilities. | 4.59±2 | 19.6 | 0.87 |
| 7. My family life – how it affects others. For example, others taking time off work, problems with childcare, family members becoming upset. | 4.74±2.1 | 18.3 | 0.82 |
| 8. Depression. For example, feeling sad, fed up, blue. | 4.05±1.98 | 29.0 | 0.81 |
| 9. Irritable. For example, snap at people, get angrier than I should. | 4.06±1.99 | 27.8 | 0.77 |
| 10. Anxiety in general. For example, worry about things, always on edge. | 4.03±2.1 | 29.7 | 0.75 |
| 11. Worry that asthma may get worse. For example, medicines no longer help, more frequent attacks. | 3.7±2.04 | 39.2 | 0.71 |
| 12. Worry about long-term side effects of medicines. For example, worry about cataracts, diabetes, bone fracture. | 3.92±2.12 | 33.8 | 0.66 |
| 13. Getting tired. For example, feeling tired for no reason, waking in the morning feeling tired. | 3.16±1.9 | 43.3 | 0.79 |
| 14. Problems at night. For example, difficulty going to sleep, being woken very easily, waking often at night. | 3.5±1.99 | 39.2 | 0.79 |
| 15. The way I look. For example, my weight, my skin bruises easily, using medicines in public, other people judging me | 3.65±2.17 | 39.9 | 0.68 |
| 16. Problems with food. For example, I find I get very hungry, I just can't stop eating, stomach problems (*e.g.* pain, bloating, etc.) | 4.27±2.07 | 26.8 | 0.67 |

#: interpretation of mean in relation to quality of life, 1=very, very difficult (worst possible); 2=very difficult; 3=difficult; 4=moderately difficult; 5=slightly difficult; 6=very slightly difficult (just noticeable); 7=no problem.

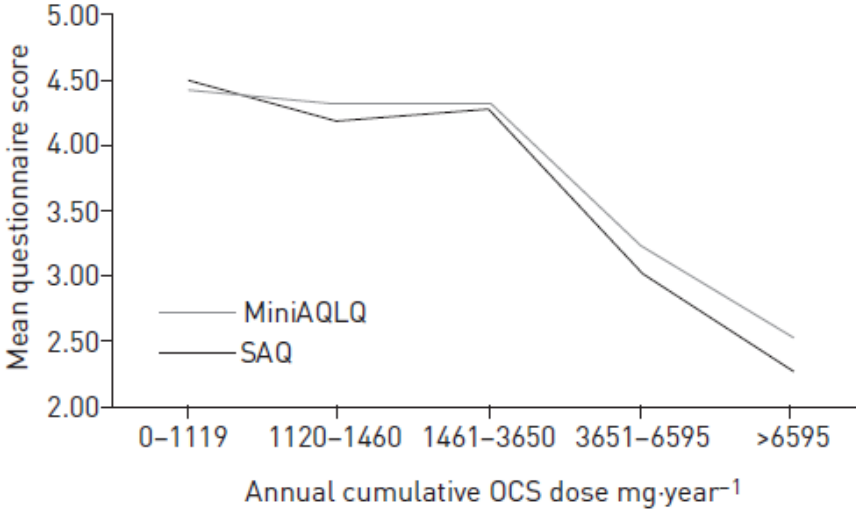
Vie personnelle, Sociale, familiale

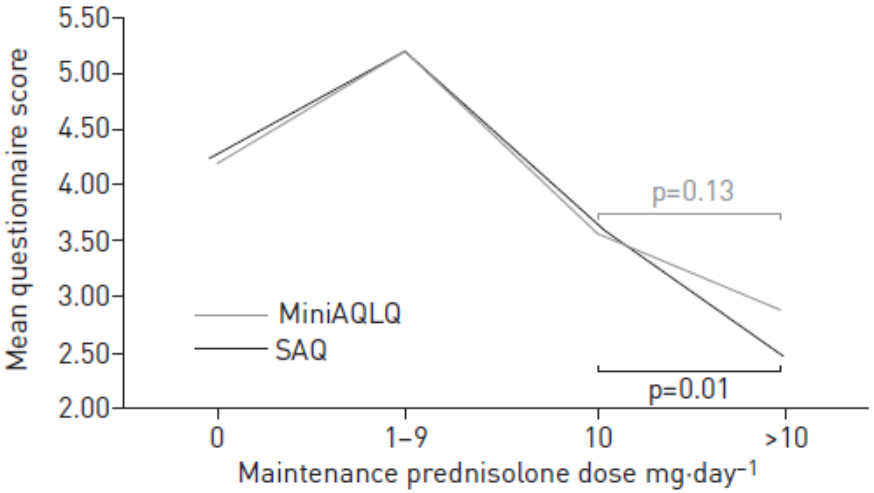
Anxiété, dépression

Effets secondaires des médicaments

Hyland ME, *ERJ*, 2018

# *Des scores spécifiques pour l'asthme sévère ?*




Hyland ME, *ERJ*, 2018

# L'épargne cortisonique

*un objectif nouveau*

| | Ref | Nbre patients Trt/placebo | Durée du Traitement | Dose moyenne ou médiane à l'inclusion (mg/j) | Reduction dose /baseline (trt) | Reduction dose /baseline (placebo) | % de sevrage (trt Vs placebo) | % d'échec (trt vs placebo) |
|---|---|---|---|---|---|---|---|---|
| **Mepolizumab** | **Bel NEJM 2014** | 66/69 | 20 sem | 15 | 50% | 0% | 14% *vs* 8% | 36 % vs 56% |
| **Benralizumab** | **Nair NEJM 2017** | 75/73 | 28 sem | 10 (7.5-40) | 75% | 25% | 52% *vs* 19% | 21 vs 47% |
| **Dupilumab** | **Rabe NEJM 2018** | 107/103 | 24 sem | 11.8+/- 6 | 70% | 42% | 48% *vs* 25% | 31,8 vs 13.6% |
| **Omalizumab** | **Molimard Respir Med 2010** | 166 | 12 mois | 26.5 | 30% | NA | 50% | 50% |

# De futurs objectifs ?

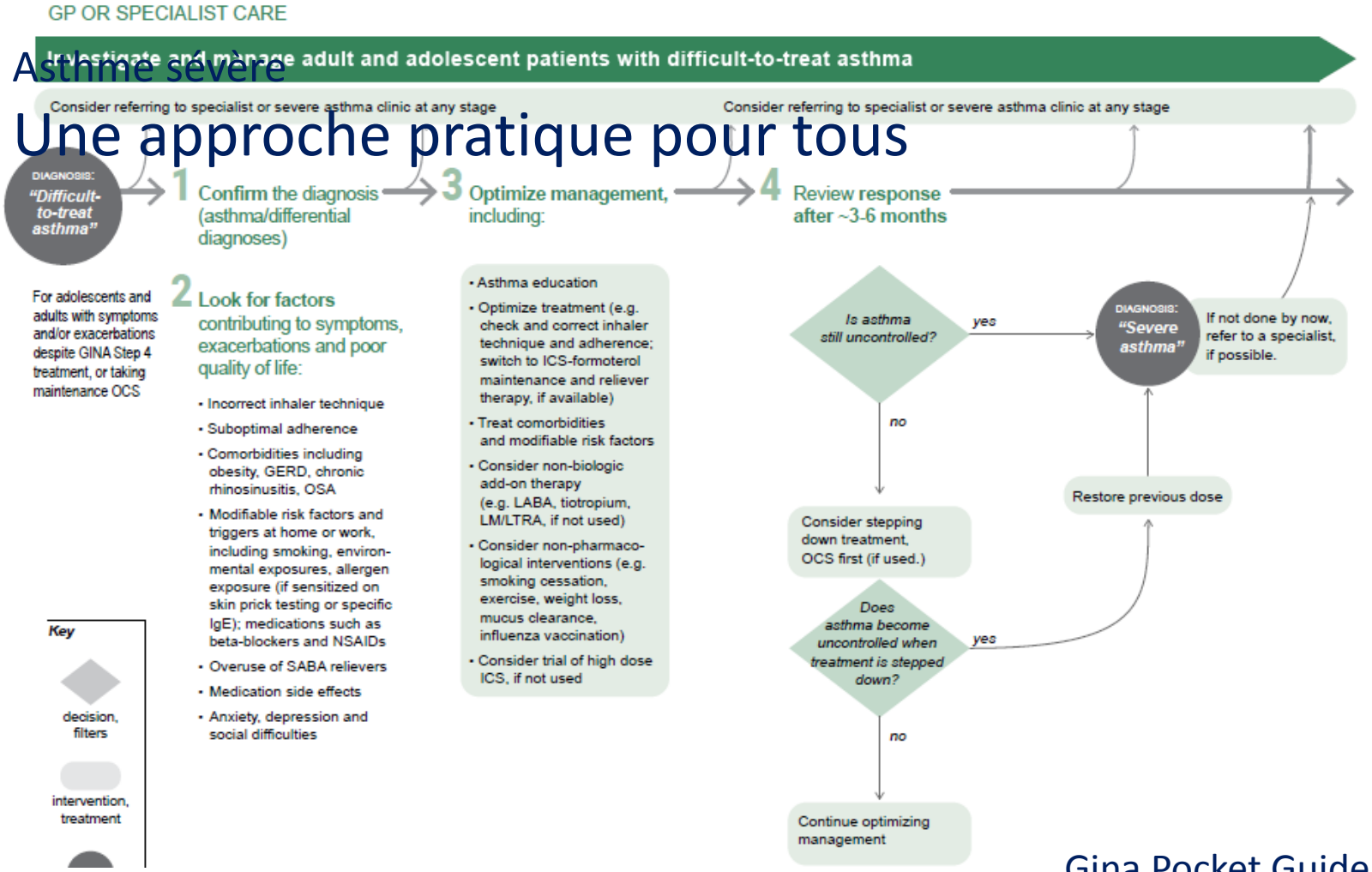
## *Réduire les complications de la corticothérapie ?*

| First author, year [ref.] | Severe asthma (corticosteroid-dependent) A | Severe asthma (non-corticosteroid dependent) B | Mild to moderate asthma C | Non-asthmatics D | Side-effect | Comparison | OR (95% CI) | p-value |
|---|---|---|---|---|---|---|---|---|
| **Bone and muscle complications** | | | | | | | | |
| Sweeney, 2016 [14] | | 808 | 3975 | 2412 | Osteopenia | A+B *versus* C | 5.26 (3.75–7.37) | <0.001 |
| Barry, 2017 [21] | | | | | | A+B *versus* D | 6.68 (4.28–10.43) | <0.001 |
| Barry, 2018 [20] | | | | | Osteoporosis | A+B *versus* C | 5.23 (3.97–6.89) | <0.001 |
| | | | | | | A+B *versus* D | 6.53 (4.63–9.21) | <0.001 |
| | | | | | Fractures | A+B *versus* C | 1.54 (1.06–2.22) | 0.022 |
| | | | | | | A+B *versus* D | 1.65 (1.14–2.39) | 0.007 |
| Sweeney, 2016 [14] | 422 | 328 | | | Osteopenia | A *versus* B | 1.15 (0.73–1.81) | 0.36 |
| | | | | | Osteoporosis | | 1.21 (0.67–2.17) | 0.44 |
| | | | | | Fractures | | 3% *versus* 0.3%# | 0.007 |
| **Adrenal complications** | | | | | | | | |
| Sweeney, 2016 [14] | 422 | 328 | | | Cushingoid symptoms | A *versus* B | 6% *versus* 0.3%# | <0.001 |
| | | | | | Adrenal insufficiency | | 3% *versus* 0.3%# | 0.010 |
| **Cardiovascular system** | | | | | | | | |
| Sweeney, 2016 [14] | | 808 | 3975 | 2412 | Hypertension | A+B *versus* C | 1.35 (1.12–1.61) | 0.001 |
| Barry, 2017 [21] | | | | | | A+B *versus* D | 1.76 (1.44–2.14) | <0.001 |
| Barry, 2018 [20] | | | | | Cardiovascular disease | A+B *versus* C | 1.36 (1.02–1.81) | 0.035 |
| | | | | | | A+B *versus* D | 1.57 (1.14–2.15) | 0.005 |
| Sweeney, 2016 [14] | 422 | 328 | | | Hypertension | A *versus* B | 1.59 (1.07–2.37) | 0.012 |
| | | | | | Cardiovascular disease | | 0.71 (0.39–1.30) | 0.41 |
| **Metabolic complications** | | | | | | | | |
| Sweeney, 2016 [14] | | 808 | 3975 | 2412 | Type II diabetes | A+B *versus* C | 1.46 (1.11–1.91) | 0.006 |
| Barry, 2017 [21] | | | | | | A+B *versus* D | 1.76 (1.30–2.38) | <0.001 |
| Barry, 2018 [20] | | | | | Obesity (BMI >30 kg·m$^{-2}$) | A+B *versus* C | 1.36 (1.16–1.59) | <0.001 |
| | | | | | | A+B *versus* D | 2.04 (1.74–2.39) | <0.001 |
| | | | | | Hypercholesterolaemia | A+B *versus* C | 1.15 (0.92–1.44) | 0.21 |
| | | | | | | A+B *versus* D | 1.61 (1.25–2.08) | <0.001 |
| Sweeney, 2016 [14] | 422 | 328 | | | NIDDM | A *versus* B | 3.48 (1.94–6.26) | <0.001 |
| | | | | | Obesity (BMI >30 kg·m$^{-2}$) | | 1.47 (1.10–1.97) | 0.016 |
| | | | | | Weight gain | | 12% *versus* 1%# | <0.001 |

Volmer T, *European Respiratory Journal* 2018 52: 1800703;

# Asthme sévère

# Une approche pratique pour tous




Gina Pocket Guide, 2018

SPECIALIST CARE; SEVERE ASTHMA CLINIC IF AVAILABLE

## Assess and treat severe asthma phenotypes

Continue to optimize management as in section 3 (including inhaler technique, adherence, comorbidities)

### 5 Assess the severe asthma phenotype and factors contributing to symptoms, quality of life and exacerbations

- ***Assess the severe asthma phenotype during high dose ICS treatment** (or lowest possible dose of OCS)*

**Type 2 inflammation**

| *Is patient likely to have residual Type 2 airway inflammation?* | • Blood eosinophils ≥150/µl and/or<br>• FeNO ≥20 ppb and/or<br>• Sputum eosinophils ≥2%, and/or<br>• Asthma is clinically allergen-driven<br>(Repeat blood eosinophils and FeNO up to 3x, on lowest possible OCS dose) |
|---|---|
| *Note: these are not the criteria for add-on biologic therapy (see 6b)* | |

- ***Investigate for comorbidities/differential diagnoses** and treat/refer as appropriate*
  - Consider: CBC, CRP, IgG, IgA, IgM, IgE, fungal precipitins; CXR and/or HRCT chest; DLCO
  - Skin prick testing or specific IgE for relevant allergens, if not already done
  - Other directed testing (e.g. ANCA, CT sinuses, BNP, echocardiogram) based on clinical suspicion
- ***Consider need for social/psychological support***
- ***Involve multidisciplinary team care (if available)***
- ***Invite patient to enroll in registry (if available) or clinical trial (if appropriate)***

*yes*

- Consider adherence tests
- Consider increasing the ICS dose for 3-6 months
- Consider AERD, ABPA, chronic rhinosinusitis, nasal polyposis, atopic dermatitis (clinical Type 2 phenotypes with specific add-on treatment)

*Is add-on Type 2 biologic therapy available/ affordable?*

*yes* →

*no* ↓

***If add-on Type 2 biologic therapy is NOT available/affordable***

- Consider higher dose ICS, if not used
- Consider non-biologic add-on therapy (e.g. LABA, tiotropium, LM/LTRA, macrolide*)
- Consider add-on low dose OCS, but implement strategies to minimize side-effects
- Stop ineffective add-on therapies

*no*

***If no evidence of Type 2 inflammation:***

- Review the basics: differential diagnosis, inhaler technique, adherence, comorbidities, side-effects
- Avoid exposures (tobacco smoke, allergens, irritants)
- Consider investigations (if available and not done)
  - Sputum induction
  - High resolution chest CT
  - Bronchoscopy for alternative/additional diagnoses
- Consider add-on treatments
  - Trial of tiotropium or macrolide* (if not already tried)
  - Consider add-on low dose OCS, but implement strategies to minimize side-effects
  - Stop ineffective add-on therapies
- Consider bronchial thermoplasty (+ registry)

*Not currently eligible for biologics*

### 6a Consider *non-biologic* treatments

SPECIALIST CARE; SEVERE ASTHMA CLINIC IF AVAILABLE

## Assess and treat severe asthma phenotypes *cont'd*

Continue to optimize management as in section 3 (including inhaler technique, adherence, comorbidities)

### 6b Consider *add-on biologic Type 2* targeted treatments

- Consider add-on Type 2-targeted biologic for patients with exacerbations and allergic/eosinophilic biomarkers on high dose ICS-LABA, with/without daily OCS
- Consider **local payer eligibility criteria** and **predictors of response** when choosing between available therapies
- Also consider cost, dosing frequency, route (SC or IV), patient preference

*Which biologic is appropriate to start first?*

#### Anti-IgE

*Is the patient eligible for anti-IgE (for severe allergic asthma)?*

- Sensitization on skin prick testing or specific IgE
- Total serum IgE and weight within dosage range
- Exacerbations in last year

*What factors may predict good response to anti-IgE?*

- Blood eosinophils ≥260/µl ++
- FeNO ≥20 ppb +
- Allergen-driven symptoms +
- Childhood-onset asthma +

If eligible, trial of **omalizumab** for ≥4 months

*Good response?*

- *yes* → Good response to T2-targeted therapy
- *no* → **STOP add-on**: Consider switching to a different Type 2-targeted therapy, if eligible → *no* → Little/no response to T2-targeted therapy

*no* ↕ *no*

#### Anti-IL5 / Anti-IL5R

*Is the patient eligible for anti-IL5 / anti-IL5R (for severe eosinophilic asthma)?*

- Exacerbations in last year
- Blood eosinophils ≥300/µl

*What factors may predict good response to anti-IL5/5R?*

- Higher blood eosinophils +++
- More exacerbations in previous year +++
- Adult-onset of asthma ++
- Nasal polyposis ++

If eligible, trial of **anti-IL5** or **anti-IL5R** for ≥4 months

*Good response?*

- *yes* → Good response to T2-targeted therapy
- *no* → **STOP add-on**: Consider switching to a different Type 2-targeted therapy, if eligible → *no* → Little/no response to T2-targeted therapy

*Eligible for neither?*
*Return to section* 6a

*Check local eligibility criteria for specific biologic therapies as these may vary from those listed*

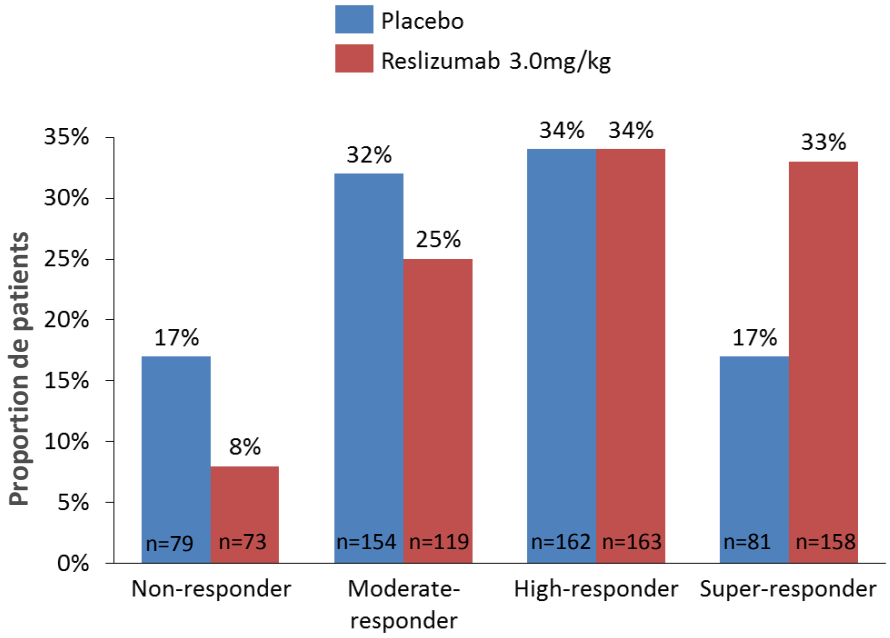
# De futurs objectifs ?

## *Comment intégrer tous ses objectifs dans l'évaluation de la réponse ?*

CRITERES :

- augmentation de 10% du VEMS,
- pas d'exacerbation pendant les 52 semaines de l'étude
- baisse de 0.5 point du score ACQ6 à la fin de l'étude.
- *Baisse de 50% de la corticothérapie ?*
- *Amélioration de la qualité de vie de X point ?*

non répondeurs = 0 critère
répondeurs moyens = 1 critère
bons répondeurs = 2 critères
super-répondeurs = 3 critères

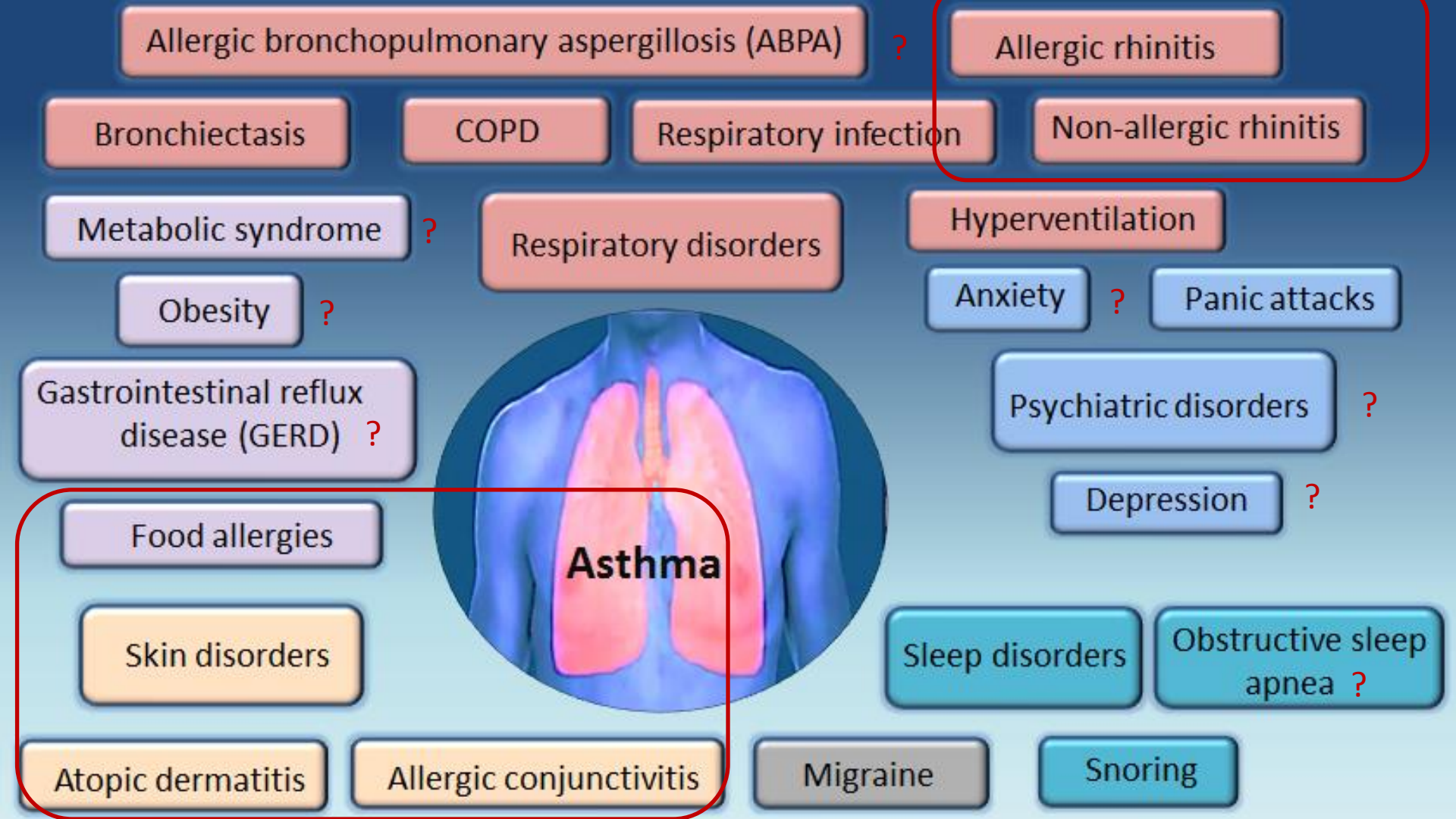



Wechsler ME. *Am J Respir Crit Care Med*. 2018;197:A1375.

# De futurs objectifs ?

## *Traiter les autres pathologies associées ?*

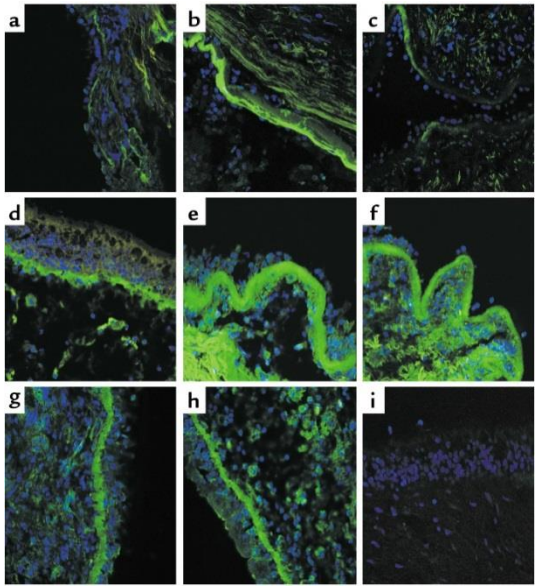
- Allergies (rhinite, dermatite, allergies alimentaires…) : anti IgE, anti IL4-13R (Wang, *JACI*, 2016; *Blauvelt*, Lancet, 2017; Fiocchi, *Curr Opin Allergy Clin Immunol*, 2017)
- Polypose naso-sinusienne : anti IL5, anti IgE, anti IL4-13R (Bachert, *JAMA*, 2016 ; Bachert , *JACI,* 2017; Vennera, *Thorax*, 2011)


Allergic bronchopulmonary aspergillosis (ABPA) ?
Allergic rhinitis
Bronchiectasis
COPD
Respiratory infection
Non-allergic rhinitis
Metabolic syndrome ?
Respiratory disorders
Hyperventilation
Obesity ?
Anxiety ?
Panic attacks
Gastrointestinal reflux disease (GERD) ?
Psychiatric disorders ?
Depression ?
Food allergies
Asthma
Skin disorders
Sleep disorders
Obstructive sleep apnea ?
Atopic dermatitis
Allergic conjunctivitis
Migraine
Snoring

# De futurs objectifs ?

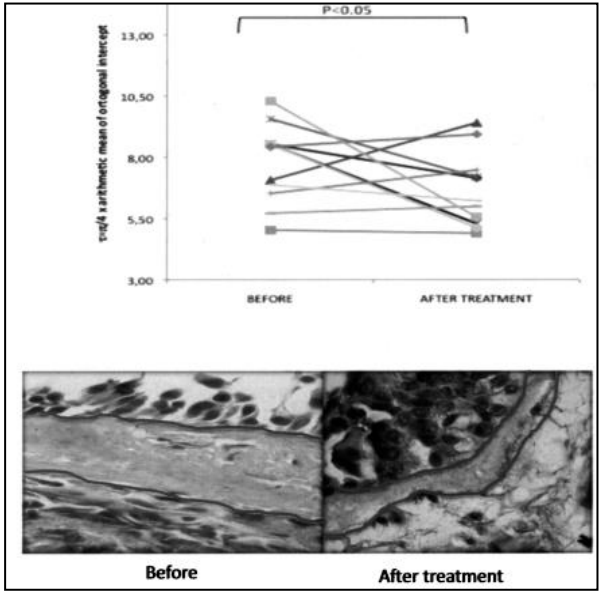
## *Prévenir le déclin de la fonction respiratoire ?*

Réduction de la MEC avec anti IL5



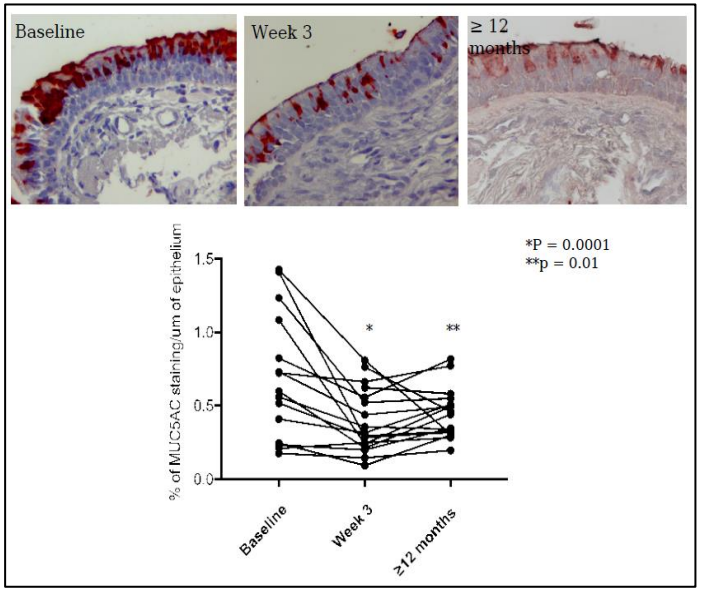

Flood-Page, *JCI*, 2003

Réduction de la MB avec anti IgE




Riccio, *Int J Immunopath Pharmacol*, 2012

Réduction du mucus après thermoplastie

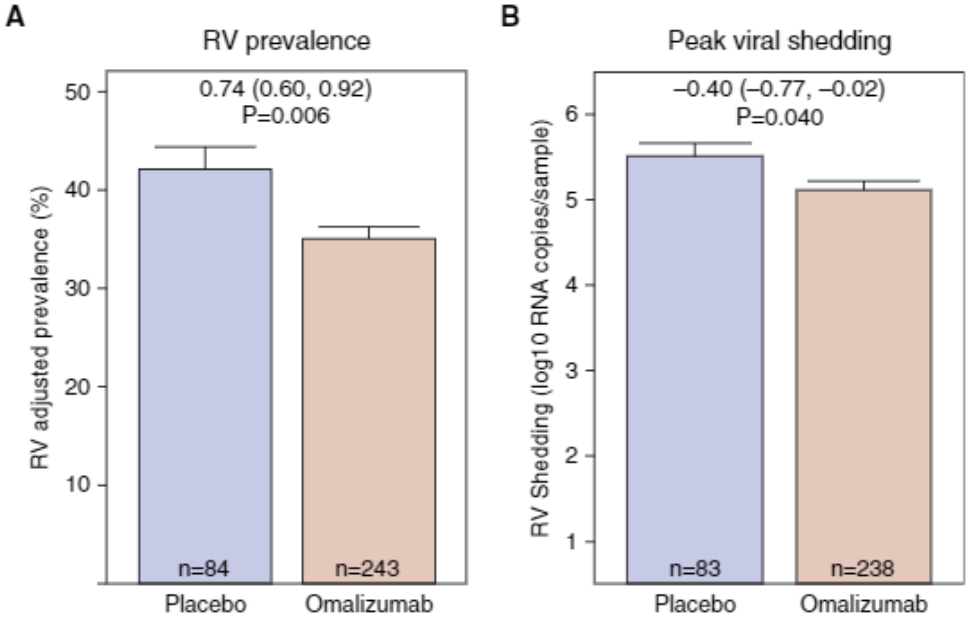



Salem, *AJRCCM*, 2018

# De futurs objectifs ?

## *Modifier l'immunité des voies aériennes ?*

Etude PROSE, anti IgE chez l'enfant
Réduction des exacerbations d'origine virale




Esquivel, *AJRCCM*, 2017

# De futurs objectifs ?

*Prévenir l'asthme  par un traitement précoce ?*

Etudes en cours ….

Brief Summary:

This trial is a randomized, double-blind, placebo controlled trial designed to test whether two years treatment of preschool children aged 2-3 years of age at high risk for asthma with **omalizumab** (anti-IgE) for two years will prevent the progression to childhood asthma, as reflected by a reduction in the prevalence of active asthma in the Final 12 months during 2 year observation period off study drug.

| Condition or disease | Intervention/treatment | Phase |
|---|---|---|
| **Asthma** | Drug: **Omalizumab**<br>Drug: Placebo | Phase 2 |

Detailed Description:

Prevention/ Disease modification of asthma.

**Study Design**

Go to

Study Type : Interventional (Clinical Trial)

Estimated Enrollment : 250 participants

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Study Description

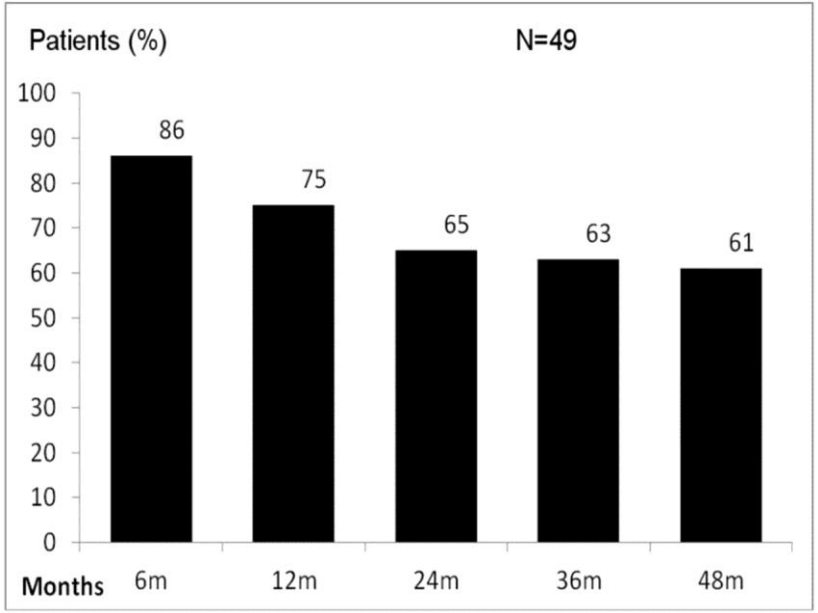
https://clinicaltrials.gov/ct2/show/NCT02570984?term=omalizumab&recrs=ab&cond=Asthma+in+Children&rank=1#wrapper

*clinicaltrial.gov*

# De futurs objectifs ?

*Induire une rémission durable de l'asthme ???*

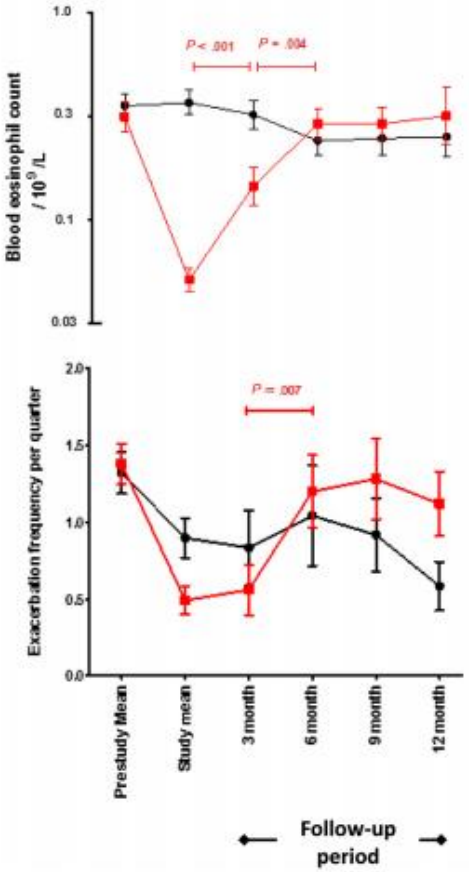
Anti IgE




Number of asthmatics (%) who remained controlled over the 4-year follow-up

Vennera, *Thorax,* 2018

Anti IL5




Haldar, *JACI,* 2014

# Résumé (1)

- Biothérapies de l’asthme sévère permettent de réduire les exacerbations et la corticothérapie, critères « lourds ».

- L’évaluation par le patient, dont la qualité de vie n’est pas toujours corrélée au score de contrôle, est un élément à prendre en compte

- Des bénéfices potentiels sur l’évolution de la maladie et ses complications restent à évaluer.

Merci !