

# Comparative effectiveness of Anti-IL5 and Anti-IgE biologic classes in severe asthma patients eligible for both

David Price<sup>1</sup>, paul pfeffer<sup>2</sup>, Nasloon Ali<sup>1</sup>, Ruth Murray<sup>3</sup>, Charlotte Ulrik<sup>4</sup>, Trung Tran<sup>5</sup>, Jorge Maspero<sup>6</sup>, Matthew Peters<sup>7</sup>, George Christoff<sup>8</sup>, Mohsen Sadatsafavi<sup>9</sup>, Carlos A. Torres-Duque<sup>10</sup>, Alan Altraja<sup>11</sup>, Lauri Lehtimäki<sup>12</sup>, Nikolaos Papadopoulos<sup>13</sup>, Sundeep Salvi<sup>14</sup>, Richard W. Costello<sup>15</sup>, Breda Cushen<sup>16</sup>, Enrico Heffler<sup>17</sup>, Takashi Iwanaga<sup>18</sup>, Mona Al-Ahmad<sup>19</sup>, Désirée Larenas-Linnemann<sup>20</sup>, Piotr Kuna<sup>21</sup>, João Fonseca<sup>22</sup>, Riyadh Al-Lehebi<sup>23</sup>, Chin Kook Rhee<sup>24</sup>, Luis Perez de Llano<sup>25</sup>, Diahn-Wang Perng<sup>26</sup>, Bassam Mahboub<sup>27</sup>, Eileen Wang<sup>28</sup>, Yun Yi Celine Goh<sup>1</sup>, Juntao Lyu<sup>1</sup>, Anthony Newell<sup>1</sup>, Marianna Alacqua<sup>29</sup>, Mohit Bhutani<sup>30</sup>, Leif Bjermer<sup>31</sup>, Unnur Steina Björnsdóttir<sup>32</sup>, Arnaud Bourdin<sup>33</sup>, Anna Von Bülow<sup>34</sup>, John Busby<sup>35</sup>, Walter Canonica<sup>36</sup>, Borja G Cosio<sup>37</sup>, Delbert Dorscheid<sup>38</sup>, Mariana Muñoz Esquerre<sup>39</sup>, Mark FitzGerald<sup>40</sup>, Esther Garcia Gil<sup>41</sup>, Peter Gerard Gibson<sup>42</sup>, Liam Heaney<sup>43</sup>, Mark Hew<sup>44</sup>, Ole Hilberg<sup>45</sup>, Flavia Hoyte<sup>46</sup>, David Jackson<sup>47</sup>, Mariko Koh<sup>48</sup>, Hsin-Kuo Ko<sup>49</sup>, Jae Ha Lee<sup>50</sup>, Sverre Lehmann<sup>51</sup>, Claudia Chaves Loureiro<sup>52</sup>, Dora Ludviksdóttir<sup>53</sup>, Andrew Menzies-Gow<sup>54</sup>, Patrick Mitchell<sup>55</sup>, Andriana Papaioannou<sup>56</sup>, Todor Popov<sup>57</sup>, Celeste Porsbjerg<sup>58</sup>, Laila Salameh<sup>27</sup>, Concetta Sirena<sup>59</sup>, Camille Taillé<sup>60</sup>, Christian Taube<sup>61</sup>, Yuji Tohda<sup>18</sup>, and M. E. Wechsler<sup>62</sup>

<sup>1</sup>Observational and Pragmatic Research Institute Singapore Singapore

<sup>2</sup>Barts Health NHS Trust

<sup>3</sup>Optimum Patient Care Global Cambridge UK

<sup>4</sup>Department of Respiratory Medicine Copenhagen University Hospital - Hvidovre

<sup>5</sup>AstraZeneca R&D Gaithersburg

<sup>6</sup>Clinical Research for Allergy and Respiratory Medicine CIDEA Foundation Buenos Aires Argentina

<sup>7</sup>Department of Thoracic Medicine Concord Hospital Sydney Australia

<sup>8</sup>Medicinski universitet-Sofia

<sup>9</sup>Respiratory Evaluation Sciences Program Faculty of Pharmaceutical Sciences The University of British Columbia

<sup>10</sup>CINEUMO Respiratory Research Center Fundación Neumológica Colombiana Bogotá Colombia

<sup>11</sup>Department of Pulmonology University of Tartu and Lung Clinic Tartu University Hospital Tartu Estonia

<sup>12</sup>Allergy Centre Tampere University Hospital Faculty of Medicine and Health Technology Tampere University Tampere Finland

<sup>13</sup>Division of Infection Immunity & Respiratory Medicine University of Manchester Manchester UK

<sup>14</sup>Pulmocare Research and Education Foundation Pune India

<sup>15</sup>Clinical Research Centre Smurfit Building Beaumont Hospital Department of Respiratory Medicine RCSI Dublin Ireland

- <sup>16</sup>Department of Respiratory Medicine Beaumont Hospital Dublin Ireland
- <sup>17</sup>Humanitas University
- <sup>18</sup>Kindai University Hospital Osakasayama Japan
- <sup>19</sup>Microbiology Department College of Medicine Kuwait University Kuwait Al-Rashed Allergy Center Ministry of Health Kuwait
- <sup>20</sup>Centro de Excelencia en Asma y Alergia Hospital Médica Sur Ciudad de México Mexico
- <sup>21</sup>Division of Internal Medicine Asthma and Allergy Medical University of Lodz Poland
- <sup>22</sup>CINTESIS @ RISE Porto University Medical School Porto Portugal
- <sup>23</sup>King Fahad Medical City
- <sup>24</sup>Division of Pulmonary and Critical Care Medicine Department of Internal Medicine Seoul St Mary's Hospital College of Medicine The Catholic University of Korea Seoul South Korea
- <sup>25</sup>Pneumology Service Lucus Augusti University Hospital EOXI Lugo Monforte Cervo
- <sup>26</sup>National Yang Ming Chiao Tung University Library
- <sup>27</sup>Dubai Health Authority
- <sup>28</sup>National Jewish Health and University of Colorado School of Medicine
- <sup>29</sup>CSL Behring SpA Milan Italy
- <sup>30</sup>Division of Pulmonary Medicine Department of Medicine University of Alberta Alberta Canada
- <sup>31</sup>Respiratory Medicine and Allergology Department of Clinical Sciences Skåne University Hospital Lund University Lund Sweden
- <sup>32</sup>Department of Allergy and Respiratory Medicine University Hospital Reykjavik Iceland
- <sup>33</sup>PhyMedExp Univ Montpellier CNRS INSERM CHU Montpellier Montpellier France
- <sup>34</sup>Respiratory Research Unit Bispebjerg University Hospital Copenhagen Denmark
- <sup>35</sup>Queen's University Belfast School of Medicine Dentistry and Biomedical Sciences
- <sup>36</sup>Personalized Medicine Asthma and Allergy Humanitas Clinical and Research Center IRCCS Rozzano Milan Italy
- <sup>37</sup>Son Espases University Hospital-IdISBa-Ciberes Mallorca Spain
- <sup>38</sup>The University of British Columbia
- <sup>39</sup>Department of Respiratory Medicine Bellvitge University Hospital- Bellvitge Biomedical Research Institute (IDIBELL)
- <sup>40</sup>Department of Medicine The University of British Columbia Vancouver Canada
- <sup>41</sup>AstraZeneca Barcelona Spain
- <sup>42</sup>Australian Severe Asthma Network Priority Research Centre for Healthy Lungs University of Newcastle Newcastle Australia
- <sup>43</sup>Queen's University Belfast Wellcome-Wolfson Institute for Experimental Medicine
- <sup>44</sup>Allergy Asthma & Clinical Immunology Service Alfred Health Melbourne Australia
- <sup>45</sup>Medical department Vejle University Hospital Denmark
- <sup>46</sup>National Jewish Health Division of Allergy & Clinical Immunology
- <sup>47</sup>Guy's Hospital
- <sup>48</sup>Singapore General Hospital
- <sup>49</sup>Taipei Veterans General Hospital Hsinchu Branch
- <sup>50</sup>Inje University - Busan Campus
- <sup>51</sup>Section of Thoracic Medicine Department of Clinical Science University of Bergen Bergen

Norway

<sup>52</sup>Pneumology Unit Hospitais da Universidade de Coimbra Centro Hospitalar e  
Universitário de Coimbra Coimbra Portugal

<sup>53</sup>Department of Respiratory Medicine Landspítali University Hospital Reykjavik Iceland  
University of Iceland

<sup>54</sup>Royal Brompton Hospital

<sup>55</sup>School of Medicine Trinity College Dublin Ireland

<sup>56</sup>2nd Respiratory Medicine Department National and Kapodistrian University of Athens  
Medical School Attikon University Hospital Athens Greece

<sup>57</sup>University Hospital "Sv Ivan Rilski" Sofia Bulgaria

<sup>58</sup>Bispebjerg Hospital

<sup>59</sup>Severe Asthma Network Italy (SANI) Milano Italy

<sup>60</sup>Department of Respiratory Diseases Bichat Hospital AP-HP Nord-Université de Paris  
Paris France

<sup>61</sup>Department of Pulmonary Medicine University Medical Center Essen-Ruhrlandklinik  
Germany

<sup>62</sup>NJH Cohen Family Asthma Institute Department of Medicine National Jewish Health  
Denver CO USA

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## Abstract

**Background** Patients with severe asthma may present with characteristics representing overlapping phenotypes, making them eligible for more than one class of biologic. Our aim was to describe the profile of severe adult asthma patients eligible for both anti-IgE and anti-IL5/5R and to compare the effectiveness of both classes of treatment in real life. **Methods** This was a prospective cohort study that included adult severe asthma patients from 22 countries enrolled into the International Severe Asthma registry (ISAR) who were eligible for both anti-IgE and anti-IL5/5R. The effectiveness of anti-IgE and anti-IL5/5R was compared in a 1:1 matched cohort. Exacerbation rate was the primary effectiveness endpoint. Secondary endpoints included long-term-oral corticosteroid (LTOCS) use, asthma-related emergency room (ER) attendance and hospital admissions. **Results** In the matched analysis (n=350/group), the mean annualized exacerbation rate decreased by 47.1% in the anti-IL5/5R group and 38.7% in the anti-IgE group. Patients treated with anti-IL5/5R were less likely to experience a future exacerbation (adjusted IRR 0.76; 95% CI 0.64, 0.89; p<0.001) and experienced a greater reduction in mean LTOCS dose than those treated with anti-IgE (37.44% vs 20.55% reduction; p=0.023). There was some evidence to suggest that patients treated with anti-IL5/5R experienced fewer asthma-related hospitalizations (IRR 0.64; 95% CI 0.38, 1.08), but not ER visits (IRR 0.94, 95% CI 0.61, 1.43). **Conclusions** In real life, both anti-IgE and anti-IL5/5R improve asthma outcomes in patients eligible for both biologic classes, however anti-IL5/5R was superior in terms of reducing asthma exacerbations and LTOCS use.

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