ASMA NEUTROFILIK

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Abstrak: asma merupakan penyakit kronik yang terjadi pada 300 juta penduduk dunia dan akan meningkat menjadi lebih dari 400 juta penduduk di tahun 2020. Penanganan dan pencegahan asma neutrofilik perlu dipikirkan mengingat selama ini penanganan asma lebih banyak difokuskan pada asma yang disebabkan inflamasi eosinofil. Fenotip asma dibagi menjadi asma alergi *early onset*, asma *late onset, exercise induced asthma*, asma pada obesitas, dan asma neutrofilik. Neutrofil berperan pada terjadinya asma respons cepat maupun lambat, menarik limfosit T dan sel dendritik ke tempat terjadinya inflamasi. Sel T *helper*-2 (Th-2) berperan dalam proses asma eosinofilik sedangkan sel Th-1 dan Th-17 berperan dalam asma neutrofilik. Faktor risiko asma neutrofilik meliputi asma akibat kerja, asma pada obesitas, asma dengan *gastro oesophagal reflux disease* (GERD), dan asma pada perokok. Pemeriksaan biomarker penderita asma neutrofilik dapat dilakukan dengan cara induksi sputum, biopsi jaringan, dan BAL. Terapi antiinflamasi khusus diperlukan pada penanganan asma neutrofilik meliputi antagonis LTB-4, *adhesion molecule blockers*, antagonis kemokin, anafilatoksin antagonis, LABA, teofilin, PDE-4 *inhibitor*, inhibitor molekul p38MAP kinase, PI3Ks *inhibitor*, NF-kB inhibitor, dan antioksidan.

Kata kunci: asma, asma neutrofilik, fenotip asma, terapi antiinflamasi

NEUTROPHILIC ASTHMA

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Abstract: asthma is a chronic disease that occurs at 300 million people worldwide and will increase to more than 400 million people in 2020. Treatment and prevention of neutrophilic asthma need to think about considering that asthma management more focused on asthma induced eosinophil inflammation. The phenotype of asthma is divided into allergic asthma early onset, late onset asthma, exercise induced asthma, asthma in obese, and neutrophilic asthma. Neutrophils play a role in the occurrence of asthma response sooner or later, attract T lymphocytes and dendritic cells to the site of inflammation. T cell helper-2 (Th-2) plays a role in the process of eosinophilic asthma while Th-1 and Th-17 plays a role in neutrophilic asthma. Neutrophilic asthma risk factors include occupational asthma, obesity asthma and asthma with gastro oesophagal reflux disease (GERD), and asthma in smokers. Examination for biomarker in neutrophilic asthma patient can be done by sputum induction, tissue biopsy, and BAL. Special anti-inflammatory therapy is required in neutrophilic asthma management includes LTB-4 antagonist, adhesion molecule blockers, chemokine antagonists, anaphylatoxin antagonist, long acting beta agonist, theophylline, PDE-4 inhibitor, p38MAP molecule kinase inhibitor, PI3Ks inhibitors, NF-kB inhibitors, and antioxidants.

Key word: astma, neutrophilic asthma, phenotype of asthma, anti-inflammatory therapy