Passage 3

Previous studies on asthma suggested that antibiotics interfere with infants' beneficial gut bacteria, which cause a child to have an undeveloped immune system and become more susceptible to asthma. A new study has however shown that other factors increase asthma risk for children. The researchers looked at participants' medical records to determine their use of antibiotics and episodes of attacks of asthma. The researchers collected blood samples from 11-year-old children who had received at least one course of antibiotics or no antibiotics in their first year of life. In the first part of the study, the team found that infants who had wheezing and were treated with antibiotics before their first birthday were more than twice as likely to develop asthma attacks or severe wheezing, and had lower introduction of cytokines (immune cells that help fight infection), compared with children who were not treated with antibiotics before the age of 1. However, the researchers note that they found no association between early antibiotics prescription and increased risk of allergic reactions. In the second part, however, the team discovered two genes in the chromosome 17 region– known as 17q21 – that were linked to increased risk of antibiotic prescription in early life. Researchers speculate that hidden factors which increase the likelihood of both antibiotic prescription in early life and subsequent asthma are an increased susceptibility to viral infections due to impaired antiviral immunity and genetic variants on 17q21.

131 . The researchers of the new study indicate that asthma susceptibility is most probably increased by ..... .

a. antibiotics prescribed before the first birthday
b. insufficiency of cytokines in the blood
c. early–stage allergic reactions
d. acquired immunity

132 . Previously, it was believed that the main cause of episodes of asthma attacks was ..... .

a. gut bacteria
b. interference of antibiotics
c. prenatal susceptibility to asthma
d. congenitally undeveloped immune system

133 . We can conclude from the first part of the new study that ..... .

a. first-year antibiotic prescription causes a genetic variation
b. there is a link between early-life antibiotics use and subsequent asthma
c. first-year antibiotic prescription is hardly related to cytokines in the blood
d. there is a link between early-life antibiotics use and allergic reactions

134 . Results of the second part of the study suggested a tie between genetic variants on 17q21 and the ..... .

a. probability of antibiotic prescription by doctors in the child's first year of life
b. underdevelopment of the immune system caused by lack of gut bacteria
c. frequency of episodes of asthma attacks and wheezing during infancy
d. allergic reactions not associated with antibiotic prescription in childhood

135 . It is implied from the findings of the study that the best strategy in dealing with children who have taken antibiotics in their first year of life would be to ..... .

a. enhance antibiotic prescription
b. test them for allergic reactions
c. have them genetically tested
d. examine them for viral infections